AMERICAN

JULY • 1953

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

THEATRE
TELEVISION
INDUSTRIAL
AMATEUR



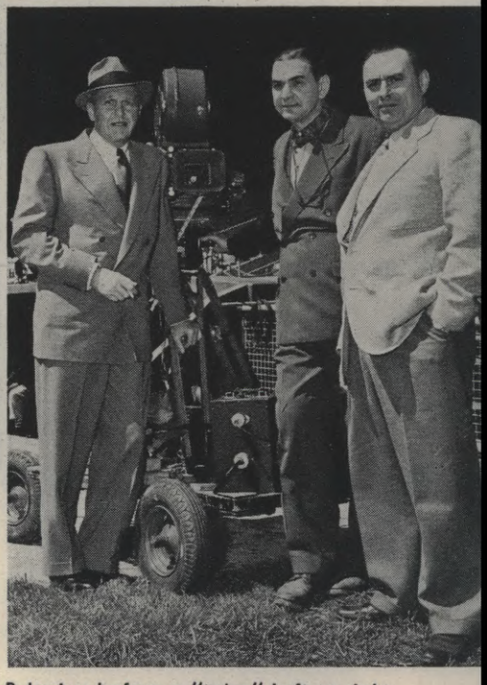
In This Issue . . .

- FILMING THE MARCIANO-WALCOTT BOUT IN 3-D
- 3-D TELEVISION
- EASTMAN COLOR FILMS
- VISTARAMA
- BASIC LIGHTING FOR INDOOR MOVIES
- PLANNING SOUND SCRIPTS

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Washington, D. C.—"Mike Barnett," 2-fisted "private eye," set for fast action. Seen in photo are: Director William Berke (left) and star, Ralph Bellamy. Portions of this "Man Against Crime" sequence were taken in a snow squall. Tricky lighting and weather problems are easily handled by "Superior" 3!



Relaxing before a "take." Left to right: Mr. Bellamy, Head Cameraman Don Malkames and Producer Edward J. Montagne.

Action-packed TV mystery shot on Du Pont "Superior" 3

In shooting "Man Against Crime" on Du Pont Motion Picture Films, camera crews are able to pack realistic, "live" action and tone into every foot of this popular TV thriller starring Ralph Bellamy. The exceptional speed of Du Pont "Superior" 3 Type 927 Film, for example, frequently eliminates the need for artificial lighting . . . facilitates top-flight work under the toughest conditions.

In discussing the advantages of Du Pont films, Head Cameraman Don Malkames, A.S.C., stated: "On a tight shooting schedule, we have to depend on the film to make every 'take' count. That's why we like Du Pont 'Superior' 2 and 'Superior' 3. When using 'Superior' 3, we can work in all kinds of lighting and weather . . . and still get the results we want."

True enough . . . lighting and weather can often put a crimp in shooting plans. Sequences for "Man Against Crime" have been filmed during snow squalls . . . in teeming rain in New York harbor . . . even on dim subway platforms! Yet Du Pont "Superior" 3 has caught the action . . . produced crisp, sparkling scenes so essential to quality productions for TV. And in that connection, Producer Edward J. Montagne summed up: "Du Pont films meet *all* our needs. Whether we're shooting indoors or out, there's a Du Pont film to do the job."

Today . . . many prominent motion picture and TV cameramen echo Mr. Malkames' comment. From experience they, too, have found that these two Du Pont films produce the most desirable results in the studio or on location. The extreme speed and exposure latitude of "Superior" 3 solve the problem of adverse weather . . . meet the challenge of even the poorest lighting. The adaptability of both films gives the cameramen a full range that insures the "take" . . . saves remakes . . . provides brilliant results. For detailed information on the various types of films available, contact your Du Pont Technical Representative, or write the nearest District Sales Office listed below. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. *In Canada: Canadian Industries Ltd., Montreal.*

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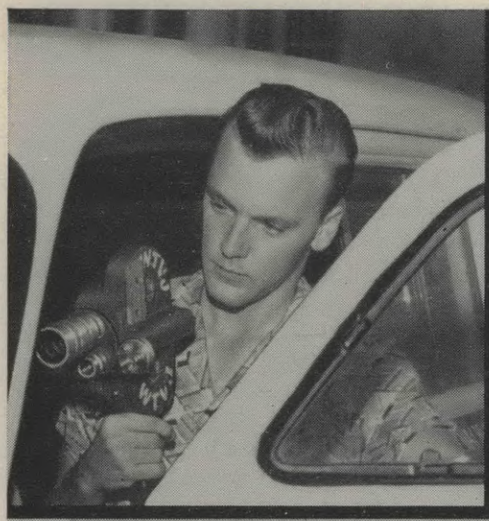
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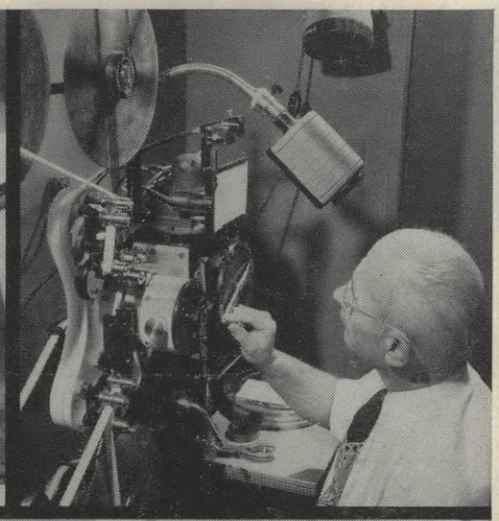
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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

"There's **GOOD NEWS** in **MIAMI,** at station WTVJ," *reports* **RALPH RENICK,** *News Director*



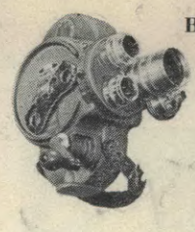




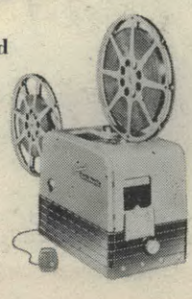


"We've won two awards for our TV news coverage. To date, we've turned out almost a million feet of 16mm news film with Bell & Howell equipment. We know it can be depended on!"

B&H "stars" at TV stations



Bell & Howell 70-DL
Ideal for news coverage. Rugged, versatile, dependable.



Filmosound 16mm optical and magnetic projectors for your final preview before releasing on the air.

Bell & Howell precision splicers, rewinds, viewers, editors and other laboratory equipment insure superior results.

In station and out... **Bell & Howell** covers the news!

It's a busy news operation at Station WTVJ. And successful too! This Miami, Florida station recently received the 1952 Gold Trophy Award of the Radio-Television News Director's Association as the nation's "Outstanding Television News Operation." In 1951, WTVJ received RTNDA's "Outstanding Achievement Award."

An important part of their news operation is dependable Bell & Howell equipment. Their lineup includes 2 Bell & Howell projectors; 3 Bell & Howell cameras (2 70-DL's and 1 70-H with motor), 2 Bell & Howell table model hot splicers, and a Bell & Howell Model "J" Printer.

Top TV stations throughout the country use Bell & Howell cameras, projectors, and editing equipment. This equipment gives stations a big assist toward more complete and professional news coverage, commercial activity, and programming. Send the coupon for complete information. See how Bell & Howell can help you.

Bell & Howell

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Please send me, without cost or obligation, complete information on sound movie equipment for TV stations.

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TOM KELLEY films one of a TV series for David S. Hillman, Inc., for Desco-ware Cooking Utensils with Mitchell 35mm "NC."

Over 30 years ago Mitchell made history with the introduction of the motion picture camera that was to set new photographic standards for a growing industry. *Today,* Mitchell 16mm and 35mm equipment is being used in every field of motion picture photography.

In the field of Television, Mitchell cameras continue to pioneer new techniques and standards. TV films shot with Mitchell cameras reach your home viewing audience *clearer, sharper* and *steadier*—to bring superior quality reproduction to the television screens in millions of living rooms. You can be sure that your television film, whether shot "live" or as an elaborate studio production... whether with one camera or ten, will be a *better* investment because it is filmed with a Mitchell Camera.

Today, as in the history-making years past, Mitchell 16mm and 35mm equipment continues to deliver the world's finest films. You can count on Mitchell—*the 30-year pioneer.*



AMERICAN FILM PRODUCERS use Mitchell 35mm for 50 TV spots for Grant Advertising for U.S. Army and Air Force.



GULF COAST FILMS, INC. uses the 16mm Mitchell Camera in filming "100 Years In Texas" for Southern Pacific Railway.

one name...

Mitchell

and the rest is history!



CATHEDRAL FILMS use two Mitchell 16mm Cameras shooting simultaneously in color in filming their production "Holy Night."

Mitchell Camera CORPORATION

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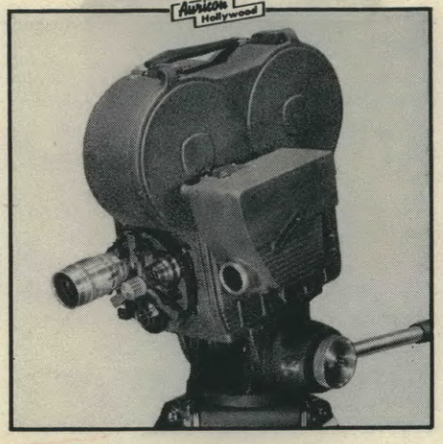
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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

AURICON 16mm Sound-On-Film for Professional Results!



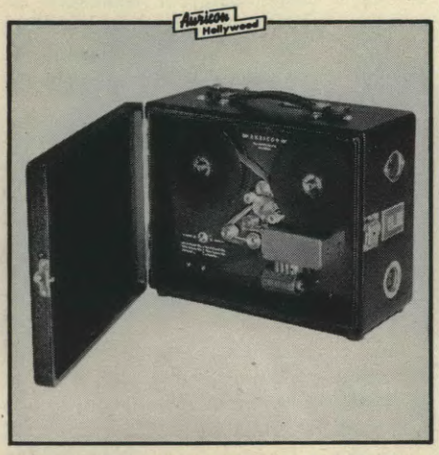
"CINE-VOICE" 16 mm Optical Sound-On-Film Camera. ★ 100 ft. film capacity for 2¾ minutes of recording; 6-Volt DC Convertor or 115-Volt AC operation. ★ $695.00 (and up).



"AURICON-PRO" 16 mm Optical Sound-On-Film Camera. ★ 200 ft. film capacity for 5½ minutes of recording. ★ $1310.00 (and up) with 30 day money-back guarantee.



"SUPER 1200" 16 mm Optical Sound-On-Film Camera. ★ 1200 ft. film capacity for 33 minutes of recording. ★ $4315.65 (and up) complete for "High-Fidelity" Talking Pictures.



SOUND RECORDER — Model RT-80...200 foot film capacity, daylight loading, synchronous motor for portable "double-system" 16 mm Optical Sound-On-Film operation. ★ $862.00 (and up).



PORTABLE POWER SUPPLY UNIT — Model PS-21...Silent in operation, furnishes 115-Volt AC power to drive "Single System" or "Double System" Auricon Equipment from 12 Volt Storage Battery, for remote "location" filming. ★ $269.50



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If it's profit you're after in the production of 16 mm Sound-On-Film Talking Pictures, Auricon Cameras provide ideal working tools for shooting profitable Television Newsreels, film commercials, inserts, and local candid-camera programming. Now you can get Lip-Synchronized Sound WITH your picture at NO additional film cost with Auricon 16 mm "Optical" Sound-On-Film Cameras. Precision designed and built to "take it." Strictly for Profit — Choose Auricon!



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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

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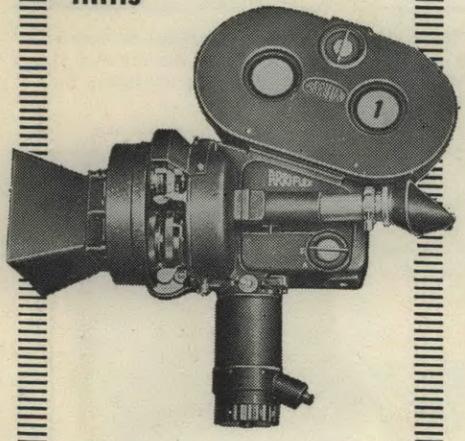
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35mm
Model 11

A TRULY GREAT CAMERA

for TV, Newsreel and commercial films



For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder, 6½ x magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200' or 400' magazine. Write for free folder.

FRANK C. ZUCKER
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BOOKS *you'll want to read . . .*

Television Scripts For Staging And Study *—By Rudy Bretz and Edward Stasheff. Publishers, A. A. Wyn, Inc., 23 West 47th St., New York 36, N.Y.; 328 pages; $4.95.*

This new volume by the authors of *The Television Program*, covers virtually every type of TV script-show currently presented, and is designed specifically for the student director and producer.

The book is divided into three parts: Part one deals with the many specific questions TV students and teachers develop in the course of their work, and provides suggestions for study. In addition there is an invaluable and complete guide to camera techniques and a glossary listing directors' standard marking symbols.

Part two contains eight royalty-free scripts and program formats, along with camera patterns and a detailed analysis of staging methods. The scripts have been chosen not only for their merit, but also because of their suitability for presentation by a school or workshop group with limited space and facilities. There are many photographs of actual sets and diagrams of microphone and camera setups.

Part three is a detailed study of some of commercial television's outstanding productions, including an installment of the popular *Mama* program; "The Line of Duty," a fine example from the *Cameo Theatre* series; and "Control of Climate," a documentary from the program *American Inventory*.

This book provides for the student an insight into the everyday activities of the television professional. For the teacher, it is an indispensable manual of teaching techniques and a storehouse of up-to-date information.

Exposure Meters and Practical Exposure Control—*by J. F. Dunn, MIEE, FRPS. Publishers, The Fountain Press, London, England. 240 pages; $7.75.*

This book has been designed to help every photographer—amateur and professional—to understand his meter and to use it in the most appropriate manner. More than this, it offers accurate and comprehensive answers to more exposure questions than have ever before been dealt with between the covers of a book.

A world-famous authority on exposure meters, the author has personally and meticulously tested the majority of exposure estimating devices and many films available today. His findings are frankly and fully discussed under many headings under two main categories: "Still Monochrome Photography" and "Motion Picture and Color Photography."

Every type of exposure estimating device is considered and reported upon, from the simple calculator to the more advanced photometer. Over 1000 illustrations show practical methods of meter usage and exposure control. Also, a new duples method of using incident light meters for color and motion picture work is presented.

American Cinematographer Handbook and Reference Guide—*Compiled and published by Jackson J. Rose, ASC, 458 So. Doheny Drive, Beverly Hills, Calif. 310 pages; $5.00.*

The fact this valuable book is now in its eighth printing attests to its great value and tremendous popularity. Indeed, there is no other handbook available which provides the cinematographer, amateur or profressional, with so much valuable data for all phases of motion picture work.

Like each of the seven editions which preceded it, the new volume is larger in page content and more comprehensive and, needless to say, more useful.

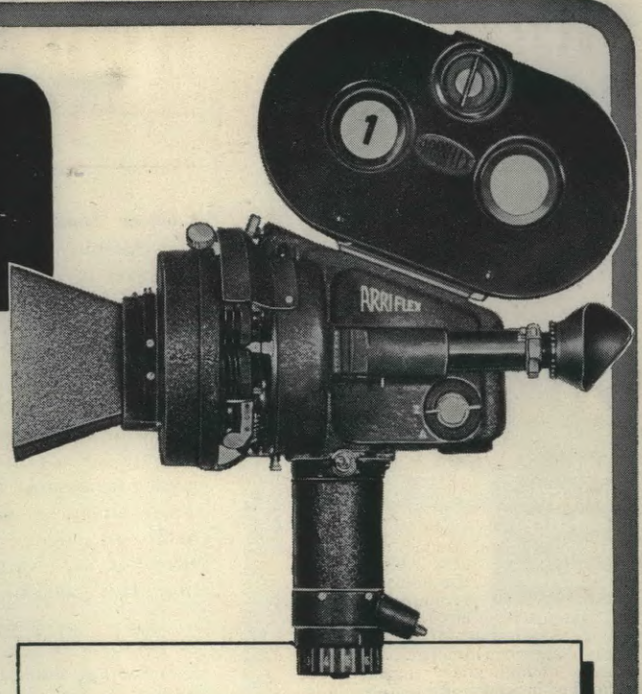
Sections devoted to such basic data as films of all kinds—35mm, 16mm, and 8mm—filters and their factors, cameras, lamps, exposure meters, etc., all have been brought fully uptodate. In addition, many new sections have been added. These include Television Photography, Kinescope Recording, Latensification, Rear Projection Process, Underwater Photography and Zoom Lenses. Up-to-date informative data on many new color films and processes have also been added.

Cine Hints, Tips and Gadgets—*by Denys Davis, Publishers: The Fountain Press, London, England. U. S. agent: Rayelle Foreign Trade Service, 5700 Oxford St., Philadelphia, Penna. 100 pages; $2.75.*

This book is intended for the novice and advanced amateur movie maker alike. It represents experience gained by producing films for, and presenting films to the public and fellow enthusiasts during the past 15 years. Described are tips for making better films; gadgets that any handyman can make.

☆ARRIFLEX 35

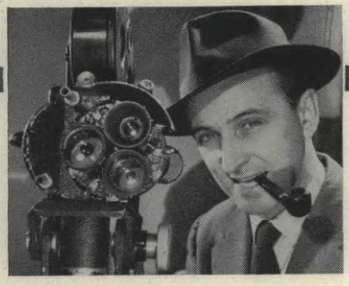
MODEL II



The ideal 35mm movie camera for TV Newsreel, Industrial, Travel and Scientific Motion Picture Photography.

FAMOUS ARRIFLEX FEATURES:

- Reflex focusing through taking lens, even when camera is running.
- Bright erect image finder, 6½ x magnification.
- "Follow-focus" without assistant.
- No parallax or other finder problems.
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Cameraman-Director
22 years of experience
in Europe and America

Writes Mr. Javorsky:

". . . In my time I have covered more than 1200 *assignments, and exposed over a half million feet of color and black and white film. Most of my shooting since* 1938 *has been with my Arriflex* 35.

One of the things I like about the Arriflex is the speed with which it can be handled. It is ideal for every kind of shooting, and I have used mine for newsreel, documentary, commercials, sports, and even feature productions. The camera is light enough to be used hand-held. There is no spring motor to run down in the middle of a scene, and no focusing or parallax problems. The important advantage is that every frame is rocksteady. The Arriflex is so reliable that I can devote all of my attention to the scene . . ."

Available at leading dealers.

Write for literature and price list.

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28mm f/2 Schneider Xenon*	90mm f/3.5 Kilar
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*With Follow-Focus Grips.	300mm f/5.6 Kilar
	400mm f/5.6 Kilar

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LENS EXTENSION TUBE for close-up filming and cinemacrography

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BATTERY — 16 Volt, lightweight, non-spill, with carrying case and shoulder strap

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THE NEW ☆ARRIFLEX 35 TRIPOD

- Sturdy, rugged and rock steady. Weighs only 19 lbs.
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NEW 600ft. REEL 16 mm



WITH EXCLUSIVE COMPCO CLIP

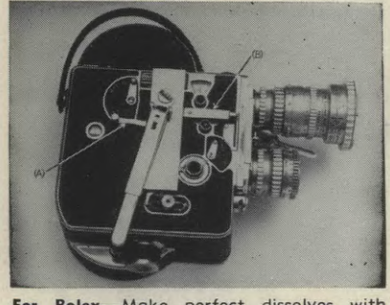
HOLDS COMPLETE 15-MINUTE SOUND PROGRAM!

This *Model 119* Compco reel in the new 600 ft. (16mm.) size holds a *complete* 15-minute sound or 25-minute silent program. It is clearly marked with scales for footage and for running time in minutes . . . is durably made of high grade tempered steel, finished in scratch-resistant, baked-on hammertone gray enamel . . . and has the exclusive "Compco Clip" that makes threading fast and easy, even in the dark! *Model 120* Film Can fits this reel. Fibre Shipping Cases also available. Write for catalog.

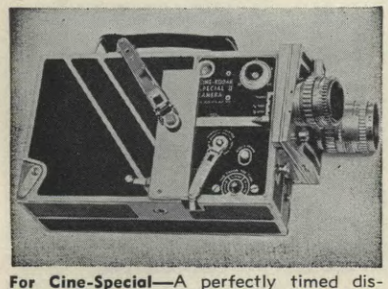
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Automatic Dissolves . . .



For Bolex—Make perfect dissolves with your Bolex H-16 (equipped with Pellegrini shutter). Automatic dissolve attachments available for immediate delivery.



For Cine-Special—A perfectly timed dissolve every time when your Special is equipped with this automatic dissolve attachment. Prices and details on request.

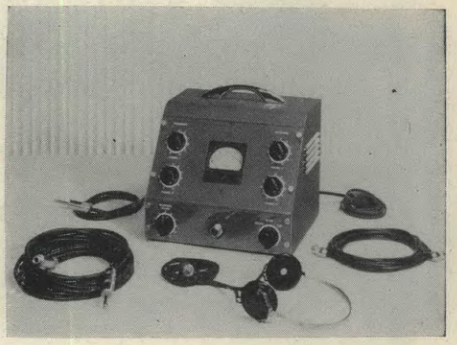
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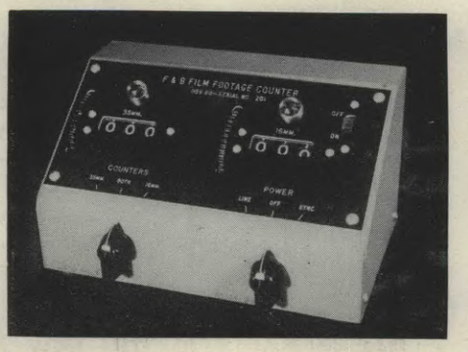
WHAT'S NEW

in equipment, accessories, service

Kinevox Expands — Kinevox, Inc., 116 So. Hollywood Way, Burbank, makers of Kinevox portable synchronous magnetic recording and playback equipment, broke ground last month for a new addition to company's present building, which houses its main office, assembly plant and shipping department. New addition, located next door, will be 85'x25' in size. Expansion was made necessary by company's recent development of magnetic theatre playback equipment, which is marketed exclusively by Natural Sound Corporation, Hollywood.



Film Footage Counter — Florman & Babb, 70 West 45th St., New York 36, N. Y., announce a new type all-purpose electrical film footage counter. There is a single and a dual model. The latter is a resettable, synchronous counter for 16mm and 35mm film. Monitor lights

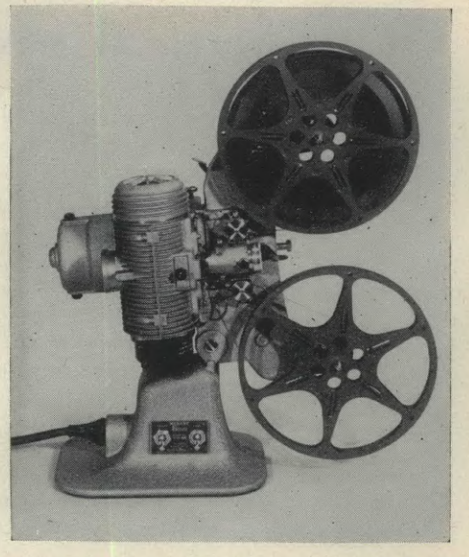


indicate when counter is switched on for operation. Another selector permits switching unit to either "Sync" or "Line" operation. Unit, which operates by a smooth, low-speed, high-torque synchronous motor, operates from any 110-volt, 60-cycle power supply line.

Further details and prices may be had by writing the company and mentioning *American Cinematographer*.

Electronic Mixer — Bell & Howell Company, Chicago 45, Ill., announces an electronic mixer and volume control for use with the Filmosound model 202 16mm recorder-projector. Unit provides a simple, accurate means of mixing sound signals from microphones, phonographs and tape recorders. Four separate input channels permit mixing sound from any or all of the three. It is self-contained and operates from any 115-volt, 50-60 cycle power supply. Setting of recording levels of each channel is afforded by volume-level meter on front of panel. Matching headphones afford monitoring of sound during the recording process. List price is $140.00. Equipment is available through Bell & Howell dealers.

Scheibe Filters for Wide-Screen — Scheibe Filter Company, P. O. Box 16834, Hollywood, one of the oldest makers of filters in the business, is now turning out ND and diffusion filters for 20th Century-Fox CinemaScope lenses. New filters are larger than conventional square filters—4"x4" in size—necessary for the larger area of the CinemaScope lens.



Projector Sports New Features — Bell & Howell Company's Regent 8mm movie projector is now being produced in a new, light color called fawn metallic. Other improved features include lifetime lubrication, fast power-rewind,

(Continued on Page 314)

DEDICATED TO BETTER PERFORMANCE

COLLAPSIBLE 3-WHEEL DOLLY



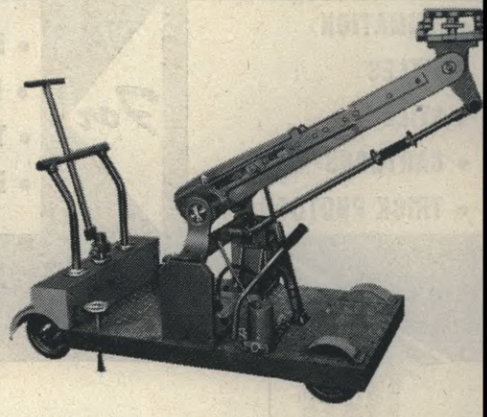
For motion picture and TV cameras. Sturdy cast aluminum. For standard or baby tripods. Additional baby tripod point holders to control spread of tripod legs. Adjustable spring seat. Extra wide rubber wheels. Bronze tie down clamps and other features.

For studio or location. Folds into one compact unit. Can be used with professional or semi-professional tripods.

'HYDROLLY'

TV OR CAMERA DOLLY

The advanced dolly for instant moveability — streamlined, lightweight, exceptionally sturdy. Nothing to get out of order. Many new advantages for easy operation. Hydraulic lift type for fast upward and downward motion of TV and motion picture cameras.



Swivel seat. Adjustable leveling head. Seat for assistant. In-line wheels for track use. Steering wheel, rigid floor locks. Hand pump or combination hand and motor pump. Easily transported in a station wagon. Fits through a 28" door.

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"T" STOP CALIBRATION
DESIGNING and MANUFACTURING

lens mounts & camera equipt. for 16mm, 35mm, TV cameras.

BAUSCH & LOMB "BALTAR" LENSES and others

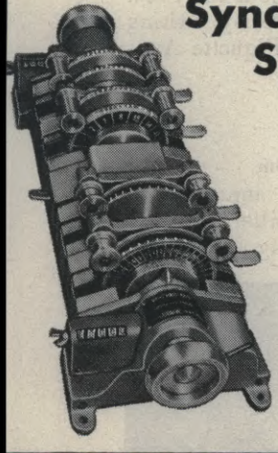
for motion picture, TV cameras. 15mm to 40" focal length.

COMPLETE LINE OF: 16mm, 35mm cameras, dollies, synchronizers, animation stands, cutting room and time lapse equipment.

BELL & HOWELL: Standard, Eyemos, Filmos. MITCHELL: Standard, Hi-speed, BNC, NC, 16mm.

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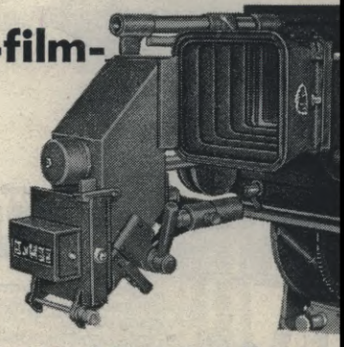
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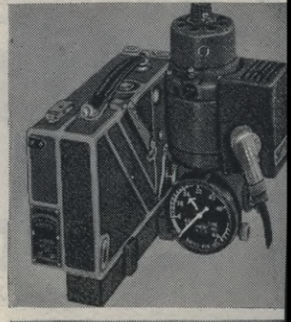
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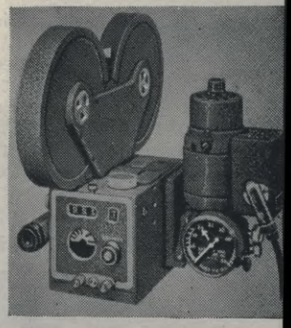
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115 V. Universal Motor — AC-DC Separate Base for Cine Special. Variable Speed 8-64 frames. Adapter for Maurer Camera.

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ANIMATION MOTORS: Cine Special, Maurer, Mitchell, B & H Motors, for Bolex and Filmo Cameras.



NATIONAL CINE EQUIPMENT Inc.

JOHN CLEMENS ERWIN HARWOOD

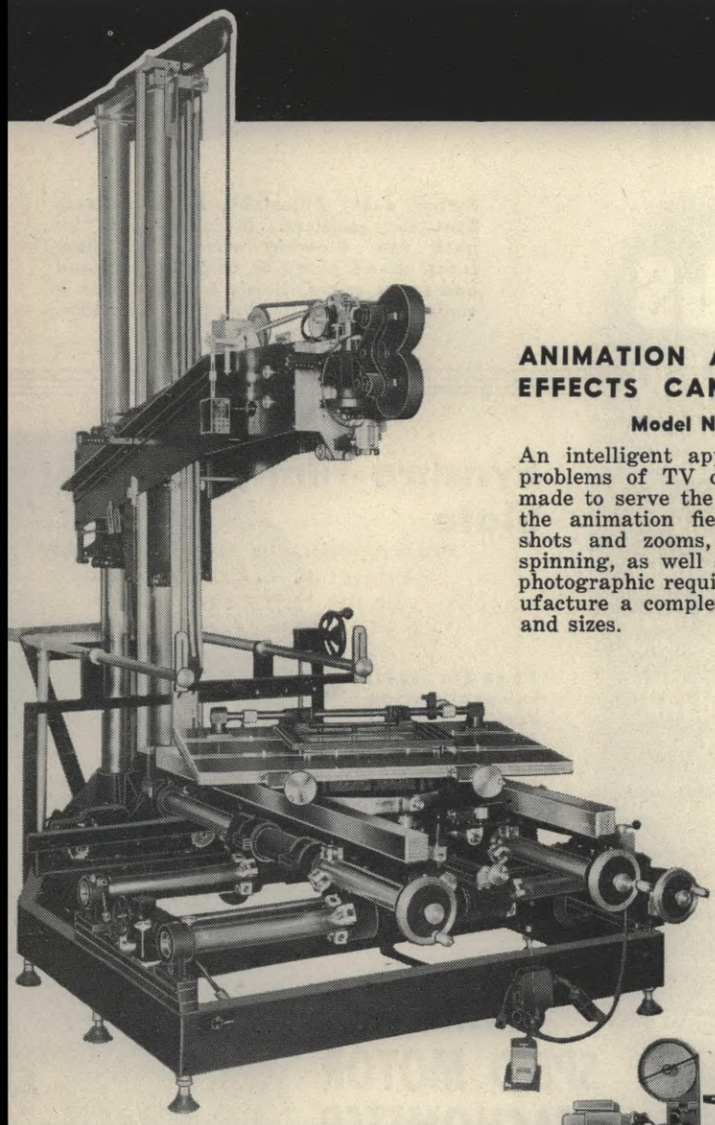
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ANIMATION EQUIPMENT
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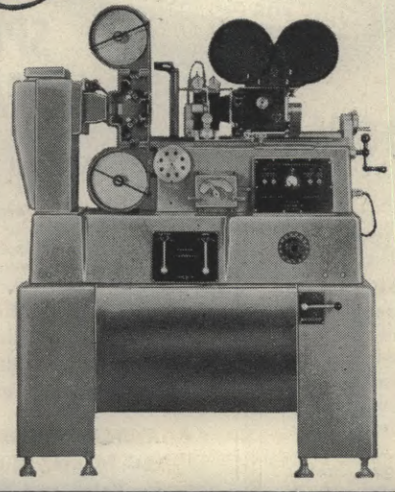
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WHAT'S NEW?

(Continued from Page 312)

and complete film protection for still projection. The machine is said to project a brighter picture on the screen than any other make of projector with a 500-watt lamp. There has been no increase in the list price, which is still $179.95, including case.

Lighting Equipment Rentals — New lighting equipment purchased recently by Jack Frost, Detroit, Mich., will supply the growing demand for company's well-known rental service to major and independent film producers, both commerical and theatrical. With the addition of a new trailer-mounted 650 ampere generator, a quantity of incandescent spotlights ranging from 150 to 10,000 watts, and portable carbon arcs of various high intensities, the Frost organization now is in a position to meet the needs of film producers everywhere.

Detailed information about the Frost rental service is available by writing Jack Frost, Dept. J, 234 Piquette Ave., Detroit 2, Michigan.

Filters For Ansco Color Film — Ansco, Binghamton, New York, announces a series of new color film filters for motion picture cameras using No. 4 size

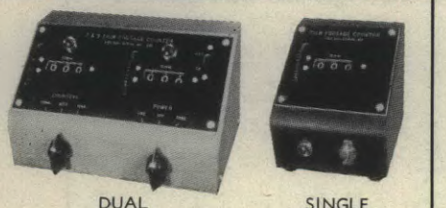


lens attachments. Filters are available in 4 different color densities: Conversion #10 and #11; UV-15 and UV-16. Filters are of the optical glass "Sandwitch" type, fitted in spun aluminum mounts.

Booklet For Picture-making Vacationers — Eastman Kodak Company, Rochester, N. Y., announces a new 64-page booklet "Vacation With Your Color Camera," which provides the amateur still and movie maker with abundant data.

NEW AND USED EQUIPMENT
FOR MOTION PICTURE & TV FILM PRODUCTION

F & B Film Footage Counter



DUAL SINGLE

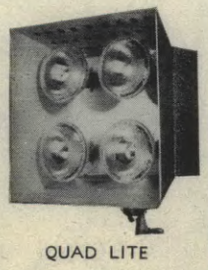
★ DUAL model counts 16mm and 35mm separately or together.
★ Two switch positions—SYNC for synchronous interlock with projector, recorder, dubber, etc.; LINE for manual control.
★ Special built-in plug-in receptacle for accessory equipment.
★ High torque sync motors with nylon gears and special lubricants for quiet, smooth drive.
★ Accessories will include interlocking time counter (minutes and seconds) and reading light.
★ All counters are resettable.
★ 110-V, 60 cycle, or to special order.

DUAL MODEL **$150.00**
SINGLE MODEL **75.00**
(specify 16mm or 35mm)

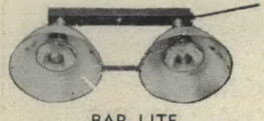
F & B Custom Built Lights



CLIP LITE



QUAD LITE



BAR LITE

F & B QUAD-LITE

Holds 4 lamps, 4 indiv. switches; strong, lite-weight aluminum construction. Ventilated, tilting yoke, 25-ft. #14 cable with Hubbell plug. Fits B-M stand. Very rugged and portable. Can be used with Colortran converters **$45.00**
Carrying case—hold 2 Quads and 2 stands (fibre) **$25.00**

F & B BAR-LITE

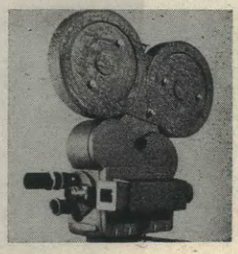
Newsreel-type lite; bar for hand-held operation. Individually fused; switches for 110-V or 220-V operation. Rugged, lightweight aluminum construction. With 25-ft. cable..... **$50.00**

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Invaluable accessory-light. Clips anywhere. Can be used with Colortran. Barn door unit revolves, accommodates diffusers. With 25-ft. cable, switch....**$15.00**

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STOPWATCH TIMER—continuous or re-set, 16 & 35mm footage..... **$18.95**

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Meter reads actual line and load voltage. Switch increases 5-volts per step. Can raise 85-volts to 120-volts with 1250-watt load. Weight about 10 lbs. **$59.50**

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ECCO 1500 Speedrol Applicator — Most pracitcal film cleaning unit. Saves time, fluid, labor, money. Price **$29.50**

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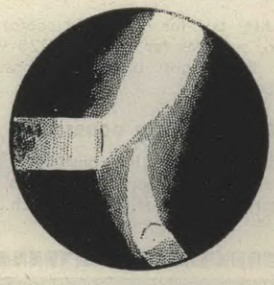
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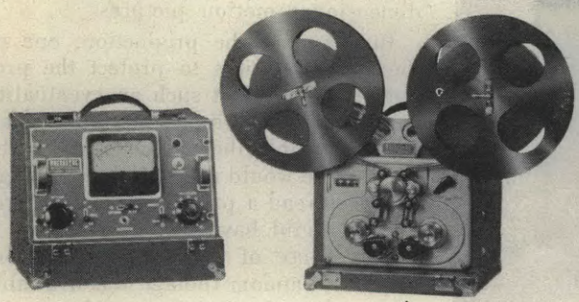
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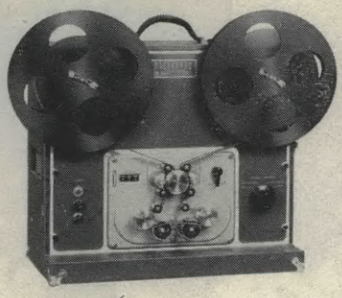
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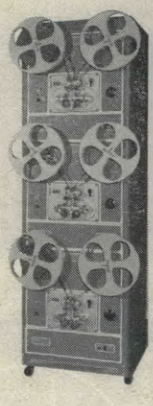
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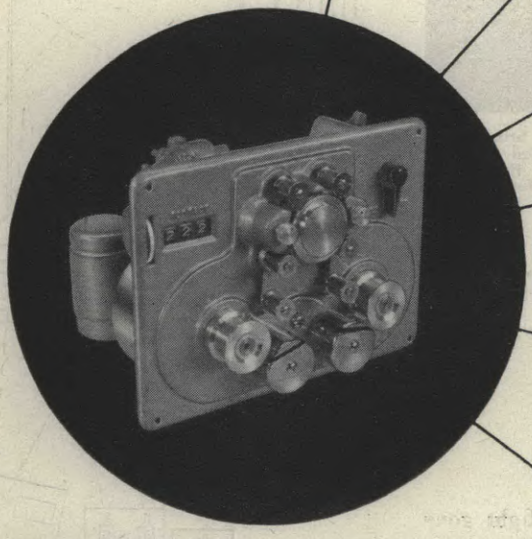


MODEL SW-602-RP
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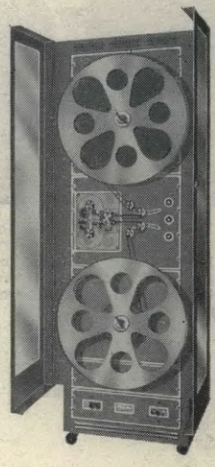


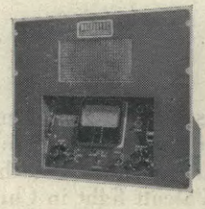
MODEL SW-602-D3
THREE INTERLOCKED DUMMIES
WITH PLAYBACK PRE-AMPLIFIERS



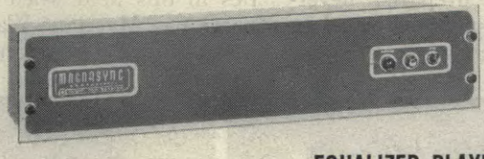


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35mm STEREOPHONIC
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PLAYBACK SYSTEM





RACK-MOUNT AMPLIFIER WITH SPEAKER



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16mm CENTER TRACK 16mm EDGE TRACK
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ROCKY MARCIANO'S hand is raised in victory following sudden knockout of Walcott, bringing filming of bout to abrupt halt. One of the two Stereo-Cine cameras which recorded fight is shown in circle. Above camera is plywood and sponge rubber panel to protect fighters in event one was knocked from ring. Note array of lamps above ring which furnished illumination for photography. (U-P photo.)

Filming The Marciano-Walcott Bout In 3-D

By JOHN W. BOYLE, A.S.C.

ONE OF THE SHORTEST 3-D film productions on record, perhaps, is the motion picture we made of the recent Marciano-Walcott fight in Chicago. Even though the action was short and the filming did not become the big project for which we had prepared, nevertheless it entailed just as much planning and also as much work as would have been required had the fight gone the scheduled fifteen rounds.

The first title-fight record ever filmed in 3-D, it was conceived and produced by Nathan Halpern and his associates, following the success of earlier activities in this field when they televised a previous Marciano-Walcott fray via closed-circuit TV to a nation-wide chain of theatres. For the return match, however, Halpern decided to present it in theatres via the newer medium of three-dimensional motion pictures.

In planning the production, one of the first steps was to protect the producers against just such an eventuality as took place—a quick knockout. Had we filmed only the initial round of the fight, there would not have been enough film to thread a projector, and the producers would have lost heavily. As it was, because of astute planning, considerable random footage was available to round out an interesting fifteen minute program film.

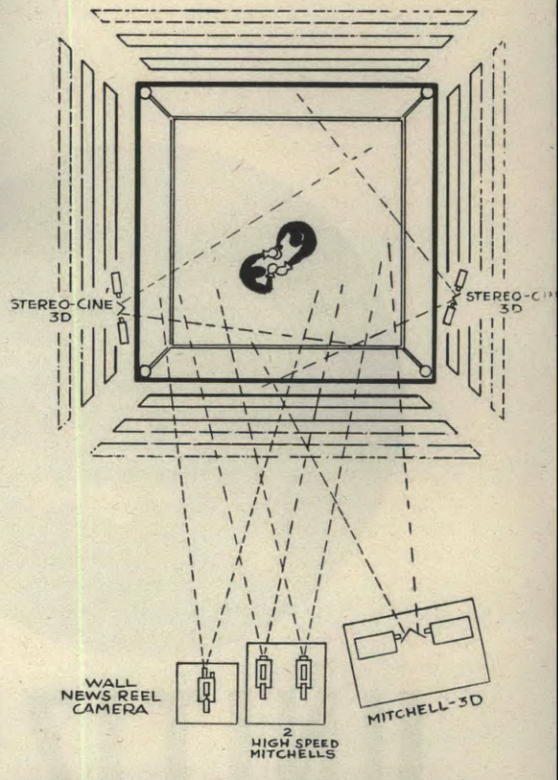


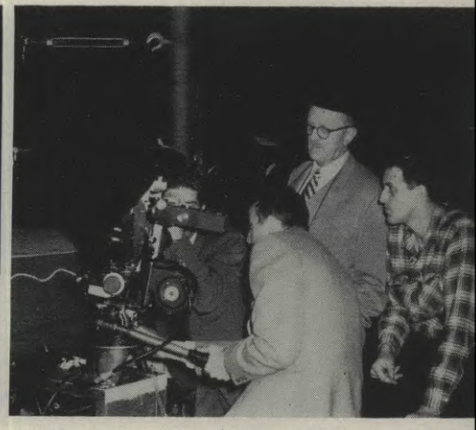
DIAGRAM shows location of various camera units in relation to ring in Chicago Stadium. Stereo-Cine 3-D cameras at either side of ring recorded action close up; the Mtchell 3-D camera, at a distance of 60 ft. Two regular Mitchells filmed action in slow-motion, while Wall newsreel camera recorded master track.



MITCHELL 3-D camera covered bout from vantage point above one of aisle-tunnels in stadium. John Boyle, ASC, (with meter cord suspended from neck) directed the photography.



TWO MITCHELL cameras (foreground) recorded action at 72 fps. Third camera (rear) is Wall single-system which recorded master sound track as aid to editing. (United Press photo.)



ONE OF two Stereo-Cine 3-D cameras which filmed bout close up from ringside. Viewing the operation is Raphael G. Wolff (with glasses), president of Stereo-Cine Corporation.

Weeks before the initial event, we took our Stereo-Cine 3-D cameras and crews first to Holland, Michigan, and later to Chicago where we shot intimate action scenes in closeup of the contenders in training. This footage later became the prologue to the scenes of the big fight, which culminated in the surprise first-round knockout of Walcott.

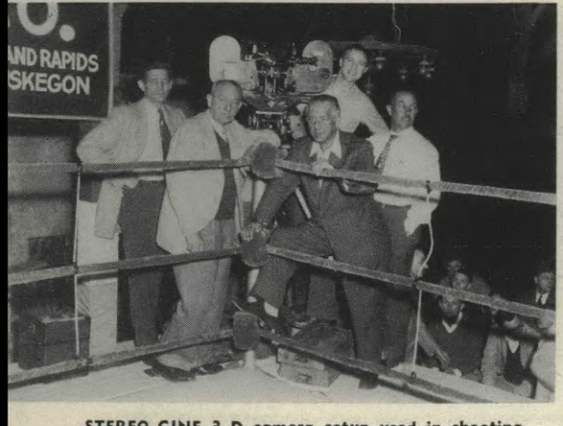
Because bad weather prevailed while we were in Holland and later in Chicago, we never were able to get any interior shots of training action. Thus we had to devise some novel action staged indoors in the gyms—something that would have definite 3-D punch pictorially. One of the interesting things we did was to mount a large panel of shatterproof glass in a wooden frame set up before the camera. The glass was cushioned in the frame with sponge rubber so that it would resist cracking in the event it was struck a hard, direct blow.

With this glass immediately before the lens, we filmed Marciano in closeups as he demonstrated his mighty rights and lefts aimed directly at the lens. Finally he moved in too close, and a heavy blow cracked the glass. Fortunately, we already had more than enough footage of this action.

Preparing to shoot the title bout in Chicago Stadium posed a number of problems, few if any which had ever been encountered before by movie camera crews. Because the Stadium is used almost daily for one type attraction or another, such as Ice shows, basketball games, etc., it was not available to either the fight management or ourselves until the very day of the title bout. Thus, instead of being able to walk into the stadium days ahead of the event and survey the photographic situation, we couldn't make a move until the very day of the fight.

At 9:00 A.M. Friday morning the Stadium was opened and construction

(Continued on Page 349)



STEREO-CINE 3-D camera setup used in shooting pre-bout activities at training quarters in Holland, Michigan. In foreground (left) is John Boyle, ASC, and Les Winik, producers' aide.

Single-film, Single-projector 3-D

System recently demonstrated to exhibitors provides stereo pictures in color from a single black-and-white film when screened with a single projector.

By NATHAN COHEN

Executive Editor, BOXOFFICE

THE SINGLE-FILM, single-projector 3-D color process developed by R. E. Schenstad was given its first public demonstration in Davenport, Iowa, last month before a group of local exhibitors and projectionists and friends of the inventor and the president of Stereocolor, Inc., Col. B. J. Palmer.

Schenstad has accomplished what he said his process will do: (1) provide stereo motion pictures taken by a single camera; (2) a single 3-D black-and-white film which projects the images in color; and (3) a single-projector 3-D mechanism.

The difficulty with the process at the moment is that it is not compatible with projection equipment universally in use. In an industry seeking standardization, this presents quite a problem.

The trouble has been that Schenstad and his associates, understandably desiring to protect their process, have been working without the advice of individuals possessing practical projection knowledge. Schenstad believes that it may be possible to make the changes necessary to make the process compatible. To do this, the inventor undoubtedly will have to work more closely with industry experts who can advise him and his associates on projection standards. Stereocolor, Inc., now has four patents on the process.

The projector which Schenstad uses consists of two standard arc lights mounted behind his special filmhead which includes two principal lenses and two auxiliary lenses, lined vertically. Four synchronized color wheels have been placed in front of the lenses, and over each lens is a polarizing lens.

Schenstad, an inventive genius who first tried to sell his process to the industry 14 years ago, built his projector in the last couple of weeks, taking parts that he needed from two standard projectors. All of his equipment is of the "homemade" variety, but there is no

(Continued on Page 352)



INVENTOR R. E. Schenstad (R) discusses his recently perfected single-film, single-projector 3-D system with Col. B. J. Palmer, president of Stereocolor, Inc. Through the projection booth porthole is seen the multiple film head required by the system, which has four lenses covered by color wheels and Polaroid filters. (Photo courtesy BOXOFFICE.)

3-D Television

Three-dimension television currently being developed for industrial and broadcasting applications; will make possible telecasting of 3-D motion picture films.

TELEVISION, which is generally credited with having forced the motion picture industry into 3-D film making, now will compete with movies in this direction. For the past several months engineers of major TV networks as well as some independents have been experimenting with stereo TV systems. *Tele-Tech*, business magazine of the electronics industry, in its May, 1953, issue, describes three systems, one or all of which it is predicted will debut nationally before long.

If successful, stereo TV will tend to further solidify the position of films in television; major studio 3-D film productions will become potential TV program material, and impetus will be given production of 3-D films especially for television.

Reports *Tele-Tech:*

"The big rush into 3-D films has been stimulated to some extent by the inroads made by TV in attracting the public's entertainment attention. In what has been described as a counter-attack, several TV interests are developing means for getting 3-D on the TV picture screen.

"RCA and Dumont Labs. are among the large TV firms who have developed Stereo TV for medical and industrial use. A double TV camera is employed to produce two images on two separate kinescopes. (See diagram.) These are polarized in mutually perpendicular planes and superimposed optically by a semi-reflecting mirror. When viewed through Polaroid spectacles, the double image produces a stereo picture.

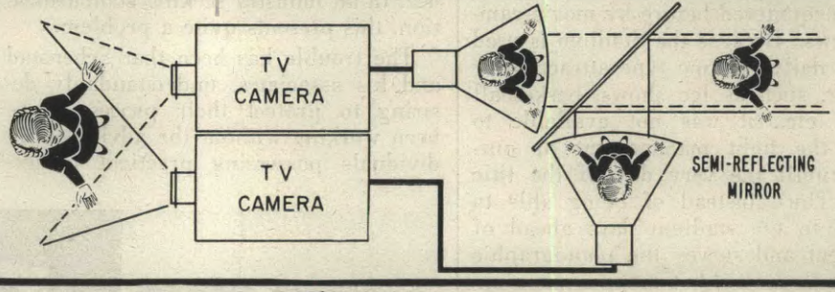
"In TV broadcasting, American Television, Inc., under the direction of U. A. Sanabria, has come out with a stereo TV system which requires a "synchronous lorgnette" similar to the shutter plan used in early 3-D movies. The cylindrical viewing device mounted on a stand contains a motor and rotating shutters for each eye that open and close 15 times per second to match the frame rate. At this speed, flicker is encountered. At the studio, an electronic switch alternately selects the outputs of two adjacent TV cameras. More work is required on this system, but the basic idea appears promising.

"An extremely simple stereo TV technique was recently introduced on KSL-TV, Salt Lake City, by a photographer who arranged to have his pair of stereoscopic photos picked up by the regular studio TV camera. In their homes, viewers were told to look at the nearly similar side-by-side pictures through two mailing tubes (one for each eye), or to arrange a cardboard separator so that each eye saw only its own side of the screen. About 50% of the viewers were able to obtain satisfactory 3-D effects. Some were able to see stereoscopically even without tubes by paralleling their eyes with distant focus.

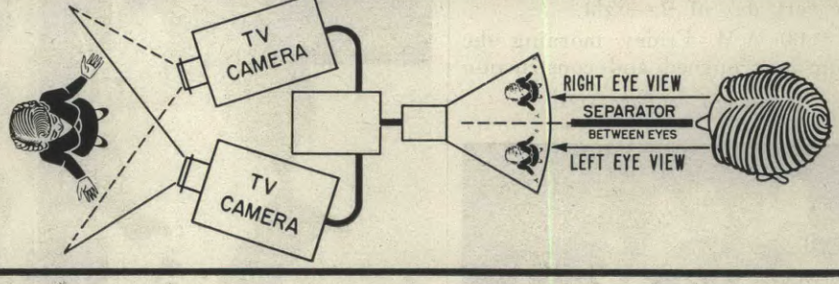
"A variation of this separator method for industrial use employs two adjacent TV cameras. Simultaneously, each

(Continued on Page 340)

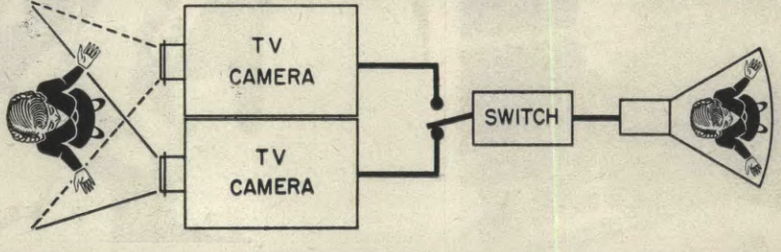
STEREO TV (RCA & DuMont)
Polarized glasses for viewing
Uses: 2 TV cameras
2 polarized picture tubes
1 semi-reflecting mirror



SPLIT IMAGE TV
Opaque separator for viewing
Uses: 2 TV cameras
1 picture tube



SYNCHRONIZED SHUTTER TV (American TV)
Rotating shutter viewer
Uses: 2 TV cameras
1 picture tube
1 electronic switch in sync with viewer

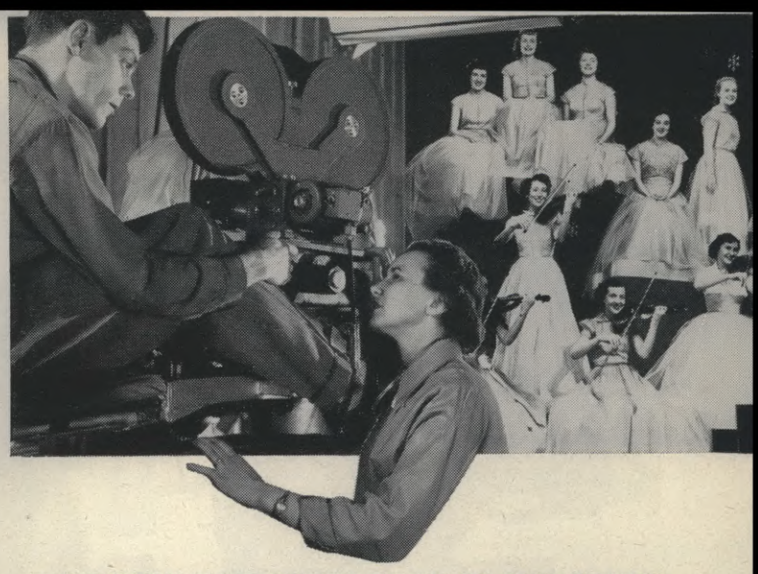


HOW THREE-DIMENSIONAL pictures are achieved in television is shown in above diagrams. Dual cameras pick up the image, but each method employs a different plan for viewing to gain the 3-D effect, as explained in accompanying text. (Illustration courtesy Tele-Tech.)



MUSIC STRANGELY SWEET FROM MAINE TO TEXAS

A glorious American cultural accomplishment is the Columbus Boychoir, which sings to packed houses in hundreds of cities and towns throughout the land. "Movies, records and radio have brought our story to the public thousands of times," says Founder-Director Herbert Huffman. "Now we want a record of our own, so we bought the finest camera, the Maurer '16'."



HEAVENLY HARMONIES IN SIGHT AND SOUND . . .

Katherine Stenholm, Director, and Robert Craig, Chief Cameraman, Bob Jones University Film Department, find the Maurer "16" ideal for their highly professional needs.

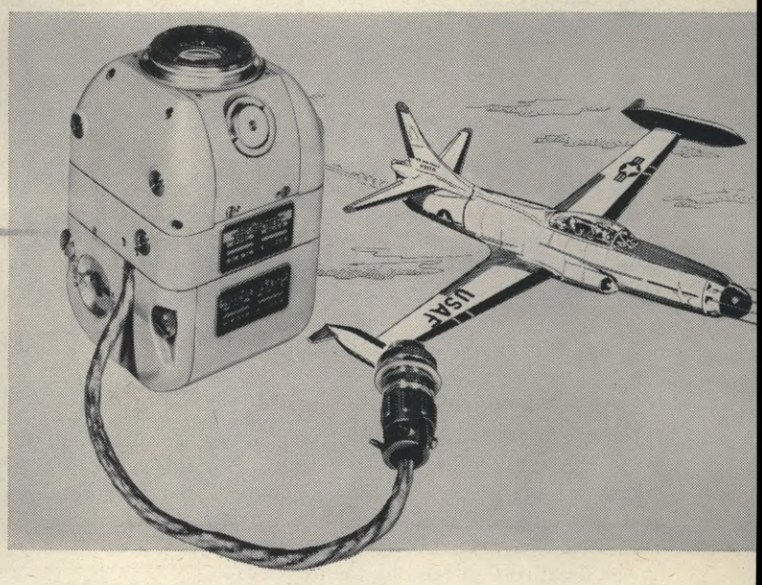
"We find the Maurer view-finder and infallible critical focus, perfect for both delicate close-ups and elaborate long shots," say these world-renowned producers of sacred musical films.

That is why professional movie makers choose the Maurer "16."



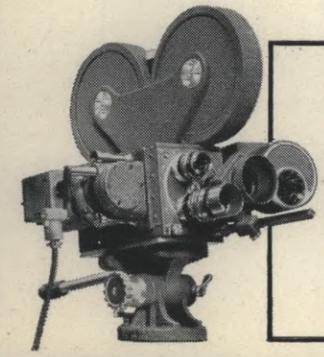
THE MAURER 16mm TAKES THE HIGH ROAD, TOO!

It's a high road to Scotland for a commercial documentary...high in time and expenses. Results must be perfect! So Ken Richter, filming "The Romance of Silver Design" for Reed and Barton, uses the Maurer "16"...as you'd expect. Professionals everywhere use the camera designed for professional work. Study the unique features of the Maurer "16."



COMBAT PHOTO RECORDS FROM WORLD'S FASTEST FIGHTERS . . .

Something special in the way of a camera for recording impact and destruction by a jet fighter's weapons, is the Maurer P-2 illustrated. The P-2 meets specifications of the Photographic Reconnaissance Laboratory of the Air Research and Development Command—yet is only one-third the weight of any previous type camera designed for this function.



THE MAURER 16MM., designed specifically for professional use, equipped with precision high-power focusing and view-finder. Standard equipment includes: 235° dissolving shutter, automatic fade control, view finder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

J. A. MAURER, inc.

37-01 31st Street, Long Island City 1, New York
1107 South Robertson Blvd., Los Angeles 35, California

Cable Address: JAMAURER

16mm maurer

maurer *means finer motion pictures!*



PEV MARLEY, ASC, (right) used Eastman color negative in photographing Warner Brothers' 3-D Warner-Color feature, "House of Wax."

Eastman Negative-Positive Color Films For Motion Pictures

By FREDERICK FOSTER

IN RECENT YEARS, a number of negative and positive color films of the integral tripack type have been made available to the motion picture industry. Their use has been greatly encouraged by the flexibility offered by the negative-positive system, which enables a studio to produce color films with the same ease it does black-and-white. This has been especially true more recently in the production of many three-dimensional films, where 3-D cameras taking single film strips are employed instead of Technicolor 3-strip cameras.

In this respect, the new Eastman color films—three in all: color negative, color positive, and color internegative—have had wide use, and now that the manufacturer has increased the output of these films, their use will become even more general. At present, nearly every major studio in Hollywood is using Eastman color negative in one way or another. Some are using the entire color series. Examples are Warner Brothers, whose Warner-Color system employs Eastman negative and positive film, and Republic Studios whose Trucolor process also employs the full range of Eastman color films. Warner's "House of Wax" is an outstanding example of all-Eastman color film use. Twentieth Century-Fox studio is using Eastman color negative in its cameras in the production of CinemaScope films. Columbia Studio uses Eastman color negative in shooting all its 3-D films, with the release prints being produced by Technicolor Corporation.

In all, Eastman Kodak now offers four different film materials which can be used in color productions, such as those outlined above, or which can be used in conjunction with existing commercial color motion picture production processes. Three of these materials represent improvements over earlier Eastman color films which were used in the last few years for a number of motion picture productions.

The most acceptable systems for color motion picture production require the use of intermediate steps in order to include special effects and to provide protection masters. A number of systems are possible when working from a color original, but the preferred system appears to be one employing black-and-white separation positives and an integral tripack-type color internegative. For this, Eastman Kodak has provided special film stocks.

The key film, of course is the negative. The new Eastman Color Negative Film, Type 5248, is balanced for use with tungsten illumination at 3200°K, and requires no filters over lights or lens. It can also be used with daylight or carbon-arc illumination when a Kodak Wratten filter No. 85 is used on the camera lens. The speed is high enough to allow sufficient exposure at a key-light level of about 200 footcandles at F/2.0. It has a tungsten exposure index of about 24, and about 16 for daylight. These are only average specifications and, in many cases, satisfactory

Number of foot-candles required	f/2.3	f/2.8	f/3.5	f/4.0	f/5.6
Lens Apertures	300	400	600	800	1600

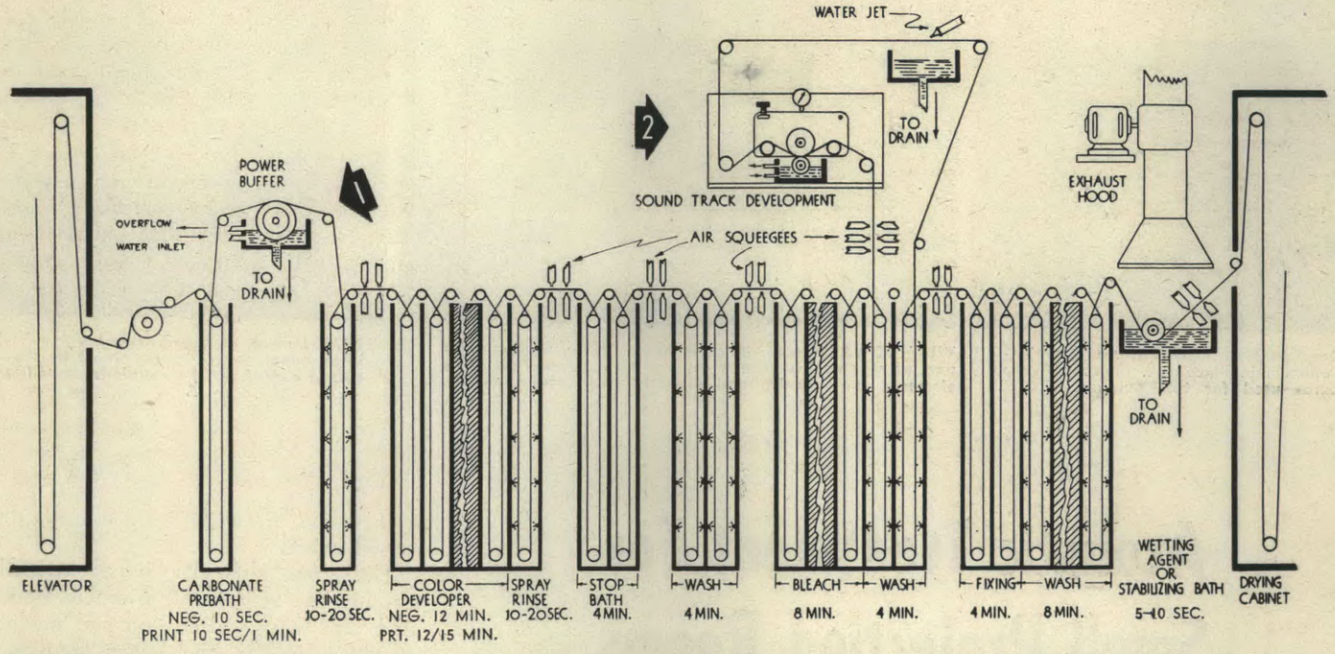
INCIDENT light table for tungsten illumination for Eastman color negative safety film #5248.

Light Source	Light Source* Filter Required	Camera Filter* Required
3200K Tungsten lamps or "CP" lamps (approx. 3350K)	None	None
M-R Type 170 150 Amp. H.I. Arc	Straw-colored gelatin filter such as Brigham Y-1	Kodak Wratten No. 85
M-R Type 40 40 Amp Duarc	Florentine Glass	Kodak Wratten No. 85
Daylight (Sunlight Plus some Skylight)	None	Kodak Wratten No. 85

*These are approximate corrections only, since final color balancing will de done in printing.

FILTERS recommended for use with Eastman color negative #5248 when exposed under light sources of various types.

SCHEMATIC OF PROCESSING MACHINE FOR EASTMAN COLOR FILMS



ABOVE DIAGRAM illustrates procedure for developing Eastman color films, both negative and positive. Arrows 1 and 2 point to two important intermediate steps in the procedure—buffer which removes anti-halation backing, and sound track developer.

exposure can be obtained at even lower lighting levels.

This new film has somewhat lower graininess than the earlier Eastman color negative, and improvements have also been made in the colored couplers to allow better rendition of blue subjects. This results in a lower blue density for the processed film, which is advantageous in printing.

The new Eastman color negative now makes it possible for producers of 35mm films in many fields to make pictures in color using any type of 35mm camera. It is expected that soon we shall see newsreels in color, and more and more explorers and travel and documentary film makers are certain to turn to color, using Eastman color negative in portable Eyemo, Camerette, and Arriflex cameras.

The new Eastman Color Print Film, Type 5382 (35mm) and Type 7382 (16mm) is similar to the earlier product, but improvements have been made to provide better image sharpness. A new magenta coupler is also incorporated in this film which gives better rendition of red hues than was the case with the earlier film.

Printing of the color negative onto Color Print Film can be done with either subtractive type printers employing color compensating filters, or with additive-type printers which utilize three filtered light beams (obtained from three separate sources or from a single source with beam-splitters). In either case, the printer must be designed to permit adjustment of both the intensity and color balance of the light for printing each scene. Additive-type printers have been found to give the best results from the standpoint of good color contrast and saturation.

The sound track can be printed from conventional black-and-white sound negatives prepared in the usual way. Either variable density or variable width tracks may be used. It has been found that better frequency response is obtained if the sound track exposure is confined to the two top emulsion layers of the print film instead of to all three layers.

When effects are to be included in the production, black-and-white separation negatives are made through appropriate filters on Eastman Panchromatic Separation Film, Type 5216, using registering-type printer. Preparation of such separations also provides protection against damage to the valuable color original or against possible fading of the dyes. This step also permits slight corrections for contrast and density variations which have occurred in the exposure and/or processing of the color negative original. The separation positives are processed in a standard black-and-white negative developer by conventional methods.

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POWER BUFFER FOR BACKING REMOVAL

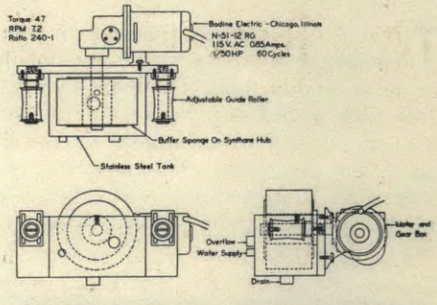
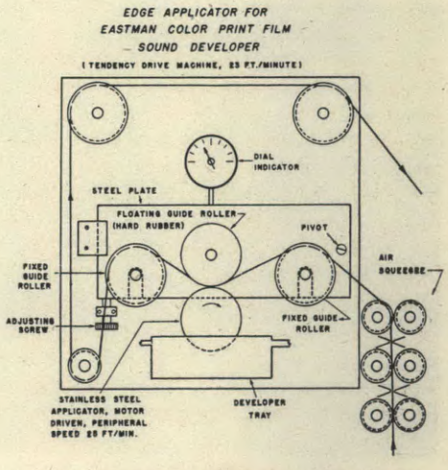


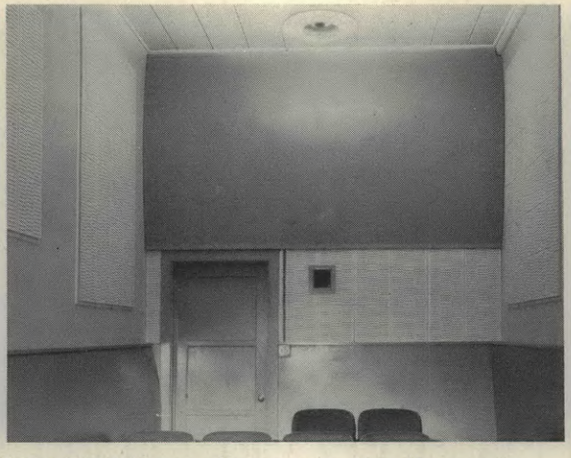
DIAGRAM showing details of backing remover, which is part of processing machine assembly (arrow 1 above.)



SHOWING detail of edge applicator for developing sound tracks on Eastman color negative (arrow 2 above.).



ACOUSTIC treatment of a typical small projection room, which minimizes the faults of very small enclosures used for this purpose.



VIEW TOWARD rear of same room. Note that greater part of rear wall surface is covered with plywood diffusing elements that receive and properly treat sound energy.



REAR portion of ceiling, showing 4 x 12 foot plywood panel. Better results would be obtained here with a curved panel to minimize sound reflections.

—Photos by Aram Peter Margosian

Acoustic Treatment For Small Projection Rooms

By F. ALTON EVERETT

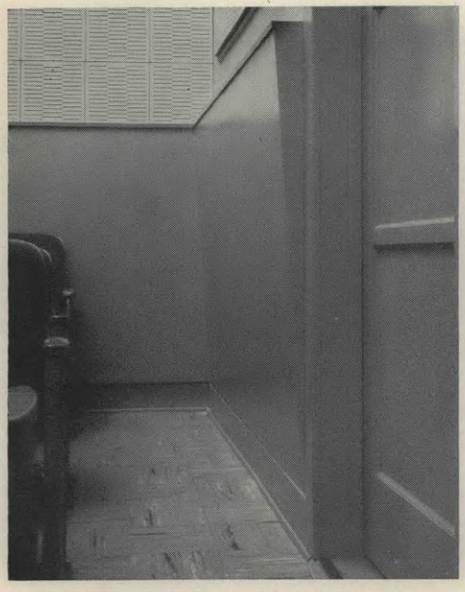
Moody Institute of Science

THERE IS MUCH information in the literature on the acoustic treatment of large auditoriums, but there is very little that would serve as a guide in the acoustic design or treatment of small enclosures. In recent years, however, research has disclosed means of approach to this problem. The "small" room in the textbooks and acoustic journals usually refers to rooms having volumes from 20,000 to 50,000 cubic feet. In this discussion we shall focus our attention on the very small rooms having volumes of only a few thousand cubic feet.

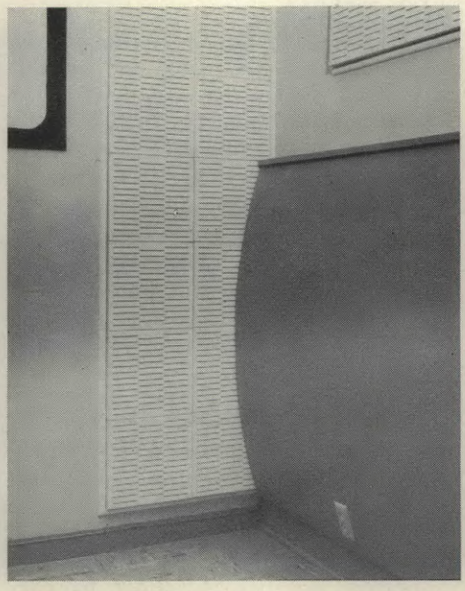
The acoustic correction of a small projection room of 2880 cubic feet (23′-1″ x 9′10″ x 12′-9″) will be described and the underlying reasons discussed briefly.

The great difficulty in acoustically treating the very small room is associated with the so-called "normal modes" of the room. In the lower frequency range of the spectrum the wave-lengths are long and the combination of the small dimensions of the room and the long wave lengths of the sound gives rise to much of the trouble. Every pair of walls, for example, are separated a half wave-length for some particular low frequency and at this frequency this mode will be in resonance resulting in great reinforcement of the sound. While this effect may be considered desirable by the bathroom tenor, it will result in poor listening conditions in the projection room.

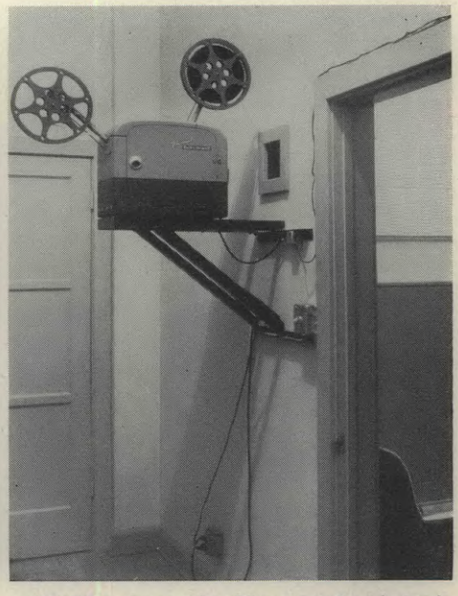
(Continued on Page 352)



NOTE USE of inclined diffusing and absorbing plywood panels on lower areas of rear walls of projection room.



POLYCYLINDRICAL diffuser panels up front fill dual role of absorbing low-frequency energy and diffusing reflected sound.



METHOD of mounting 16mm sound projector in adjoining room, which serves as projection booth. No glass is used in the port.

EASTMAN

PROFESSIONAL
MOTION PICTURE
FILMS

W. J. GERMAN, INC.

Fort Lee Chicago Hollywood

Vistarama—Wide-Screen System For 16mm Movies

Will give "new look" to industrial and educational films.

By HERB A. LIGHTMAN

ABOVE WHICH will enable producers and exhibitors of 16mm films to keep pace with the trend in theatrical pictures for wide-screen presentation has been announced by Vistarama Corporation, Beverly Hills, whose president Carl Dudley is well known as one of the country's leading producers of 16mm industrial and documentary motion pictures.



SHOOTING an industrial film in 16mm Vistarama is no different than filming normally. A special viewfinder shows the full area taken in by the Vistarama lens. The wider aspect ratio will enable cinematographers to develop more dramatic compositions.

Vistarama is a wide-screen system of motion picture photography and projection employing an anamorphoscope "squeeze" lens by which images twice normal width are compressed onto a normal frame of 16mm or 35mm negative. The system is essentially the same as 20th Century-Fox's CinemaScope, except that the one lens may be used for both taking and projecting pictures. In projection, the picture is spread on a panoramic screen, and has an aspect ratio of 2.66 to 1.

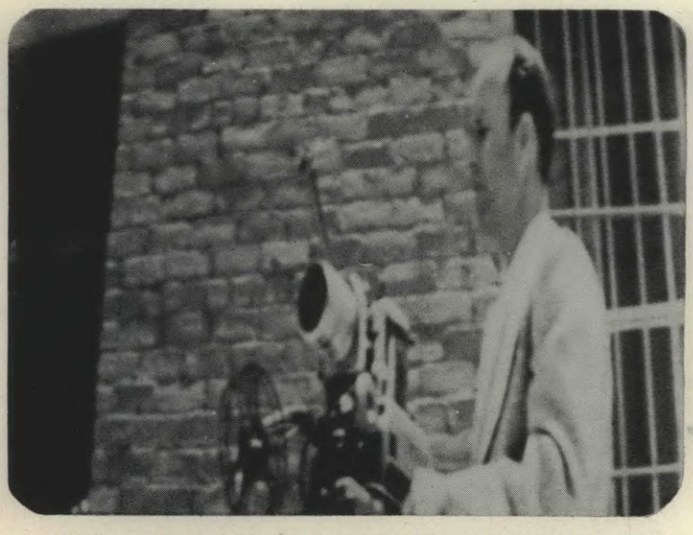
It is not hard to imagine the tremendous impact which this will bring to the 16mm screen. Industrial, training, promotional, educational and even home movie films now may photographed and screened with the "new look" that is having such tremendous audience acceptance in the nation's theatres.

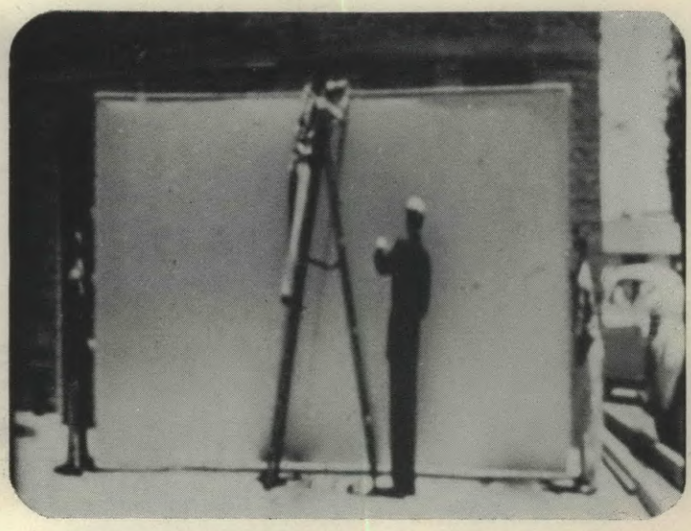
Producers of industrial and business films have a powerful new tool in Vistarama, for they now can give their clients motion pictures having treble the visual impact of standard format films. Already screen manufacturers are in production on beaded and aluminum surfaced screens in the wide, horizontal format necessary for showing Vistarama pictures. These screens can readily be set up in school auditoriums, convention halls, little theatres, and in the home. Permanent wide-screen installations are unnecessary for 16mm Vistarama panoramic movies.

Vistarama lenses are easily mounted on any 16mm camera or projector, professional or amateur, as well as those in 35mm. Similar lenses will soon be available for 8mm movie makers.

Vistarama officials emphasize that their system is completely compatible with CinemaScope, and Vistarama films in 35mm can be projected with the same lens and on the

(Continued on Page 342)





ABOVE are frame enlargements from a 35mm Vistarama color print, which show (left) Carl Dudley mounting Vistarama lens on a 16mm projector, and (at right) supervising erection of special curved screen for Vistarama presentation. Distortion of image is result of "squeeze" action of the Vistarama lens. Image is expanded in projection and appears normal on wide screen having aspect ratio of 2.66 to 1.

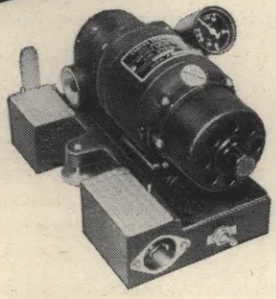
In Studio... or on Location...

the new "Balanced" TRIPOD HEAD is doing a whale of a job every day

"Balanced" Tripod Head

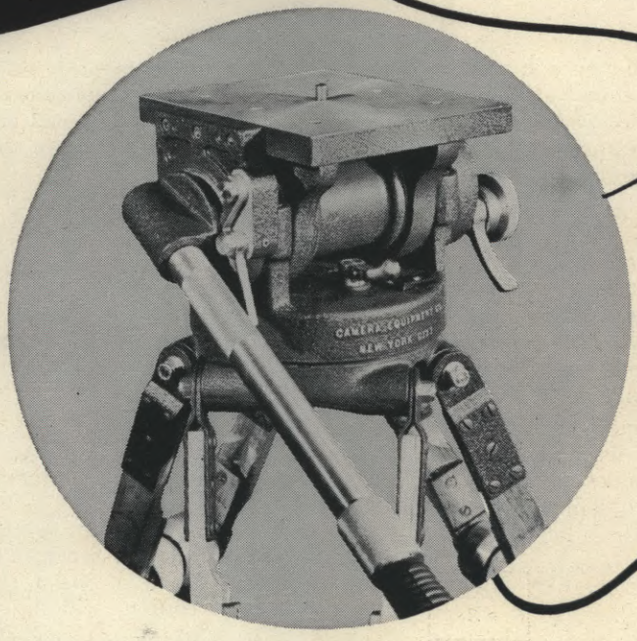
We threw the book away and engineered a brand new "BALANCED" Tripod for every photographic and video need. The result—a revelation in effortless operation, super-smooth tilt and 360° pan action.

PERFECT BALANCE prevents mishap if the lock lever is not applied. Quick release pan handle locks into desired position. Mechanism is enclosed, rust-proof, needs no lubrication. Tension adjustment for Camera Man's preference. Built-in spirit level. Telescoping extension pan handle. We defy you to get anything but the smoothest, most efficient operation out of this tripod beauty.

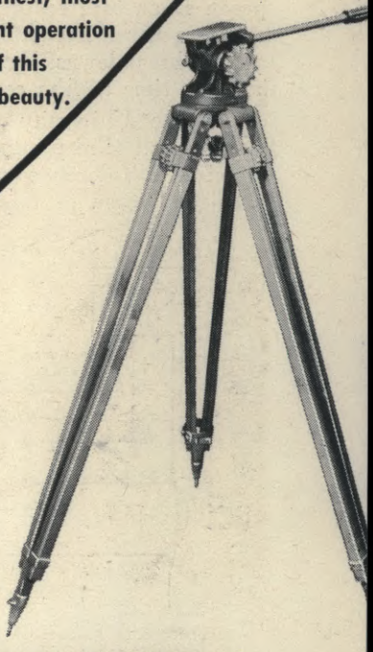


VARIABLE SPEED MOTOR—110 Volt AC/DC—with Tachometer for EK Cine Special

Motor drive your Cine Special with confidence! Tachometer is mounted in clear view of operator. Calibrated from 16 to 64 frames per second. Definite RED marking for 24 fps. Electrical governor adjusts speeds. Steady operation at all speeds. No adapters needed. Motor coupling attaches to camera and couples to motor. Spring steel drive arm shears if film jam occurs. Easily replaced.



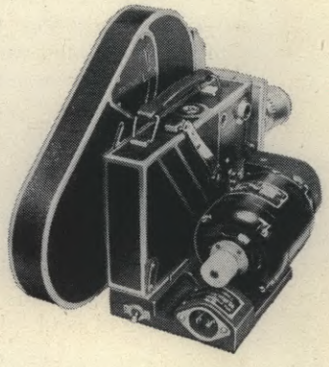
HEAD ILLUSTRATED CONTAINS ADJUSTABLE CAMERA TIE-DOWN SCREW FOR LOCATING CENTER OF GRAVITY. THIS FEATURE IS OPTIONAL.



SYNCHRONOUS MOTOR DRIVE—110 Volt AC —Single phase, 60 Cycle.

Runs in perfect synchronization with either 16mm or 35mm Sound Recorders. Mounting platform permits removal of magazine while camera remains mounted on motor. Spring steel drive fin coupling prevents damage if film jam occurs.

Knurled knob on armature permits rotating for threading. "On-Off" switch in base. Platform base threaded for ¼" or ⅜" tripod tie-down screw. Rubber covered power cable with plugs included.



PROFESSIONAL JUNIOR TRIPOD—Friction Type

Handles all 16mm cameras, with or without motor. Also 35mm DeVry, B & H Eyemo with and without motor, and 400′ magazines. Tripod base interchangeable with Professional Junior gear drive head. "Baby" tripod base and "Hi-Hat" base available.

If you work with film... for Studio, Newsreel, Commercials, Business, Industrial or Home Movies—it will pay you to get to know us. The country's foremost professionals depend upon our portable, versatile, adaptable equipment.

ARRIFLEX Camer

We Rent and Service
*Cameras * Moviolas * Dollies*

Complete line of 35mm and 16mm equipment available for rental.

MITCHELL: Standard, Hi-Speed, BNC, NC, 16mm
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MAURER: 16mm Cameras
MOVIOLA: Editing machines, Synchronizers

We Design
and manufacture Lens Mounts and camera equipment for 16mm—35mm and TV cameras.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

We Calibrate Lenses Precision "T"
STOP CALIBRATION of all type lenses, any focal length.
Our method is approved by Motion Picture Industry and Standard Committee of SMPTE. For proper exposure density, it is important that you have your lens "T" stop calibrated. Lenses coated for photography. Special TV coating. Rapid service.

A Simplified Method For Continuous Double-System Photography With Two Cameras

By RICHARD F. DUBBE and HARRY WEBB

University of Minnesota

OUR BASIC PROBLEM was to photograph without interruption motion pictures with sound of continuous events, such as speeches, plays, and athletic events, and at the same time obtain synchronized sound with the flexibility, and having all the quality, of the best double-system recording methods.

The best problem in this case was to film and record the annual report of the president of the University of Minnesota, Dr. J. L. Morrill. Most readers know how easily a speech or an oral report can lose its feeling of authenticity and its general impact if subjected to interruptions caused by shot breakdowns. We were anxious to avoid this, and at the same time to film continuously as well as economically.

Now the University of Minnesota, like other colleges having small film production units, does not boast the luxury of a half-dozen sound cameras that might be used in filming an event of this kind. It had to be done with the equipment at hand—an Auricon single-system camera and a Maurer. The use of two cameras would give us more variety in camera angles and at the same time permit us the continuous recording of picture and sound desired.

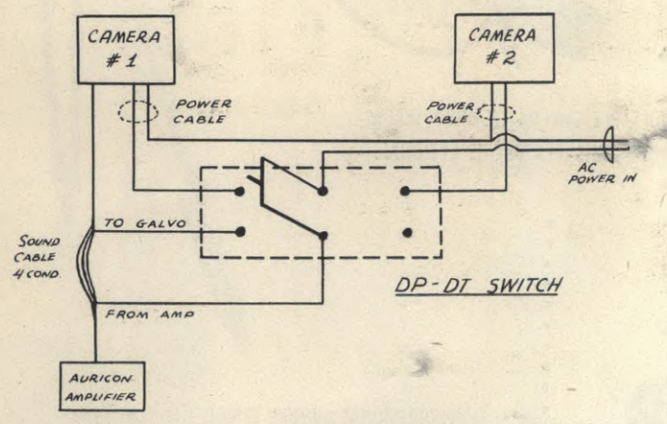


FIG. 1—Switching arrangements between the dual 16mm cameras employed in authors' system. Camera No. 1 is a single-system Auricon; No. 2 is a double-system Maurer. DP-DT switch transfers motor current from one camera to the other, at same time interrupts flow of current to galvanometer to effect cue mark on sound track.

Normally, it is necessary to indicate on the film the point at which each camera comes into operation, so that film and sound track can be matched up in the editing. For this clap sticks are generally employed to simultaneously mark both picture and sound. However, when one of the cameras can record both sound and picture, as in the case with a single-system Auricon, it becomes possible to synchronize the takes of both cameras by employing a simple and inexpensive switching device, and using the sound track of the single-system camera as a cue track or editing guide. The master sound track, or sound master as we call it, is recorded separately—in our case with a Stancil-Hoffman magnetic film recorder.

While it is possible in some cases to use the sound track of the single-system camera as the master as well, we elected to make the additional magnetic track to insure optimum sound quality. Because the Stancil-Hoffman recorder operated at the same speed as the camera, this facilitated editing, since the sound master could be run through the film synchronizers along with the single-system film.

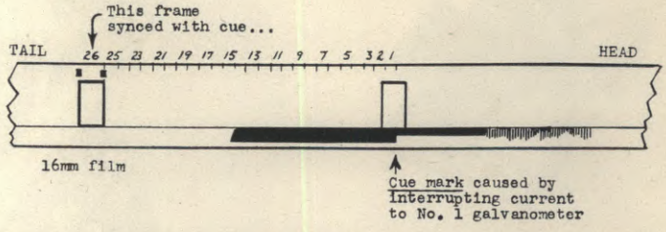


FIG. 2—Pattern of the cue mark effected by the switching operation is shown here, as well as its relationship to the respective frame of the picture.

In working out our method for two-camera continuous recording, our desire was to avoid making any physical changes in either of the cameras. It occurred to us that the best system would develop from a method of actuating the galvanometer of the Auricon when the sound camera—the Maurer—was switched on. We saw that by using a simple switch, we could stop the modulation on the cue track and at the time time interrupt the ground noise reduction circuit. The switching arrangement, outlined in Fig. 1, was rigged up in a very short time, and the equipment put through preliminary tests. The results were all we could hope for. Here's how it works:

To effect synchronization of the films made by the two cameras, we record a visible cue on the single-system sound track of the Auricon camera film. This enables us to tell the exact point at which camera No. 2 is started and stopped when the two cameras operate in relays to produce a continuous sound and picture record. A director using the

(Continued on Page 348)

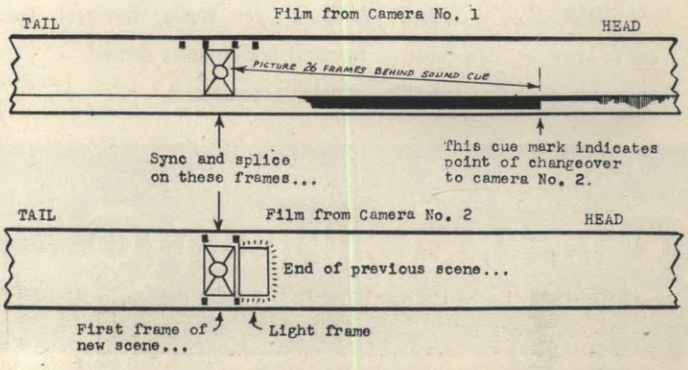


FIG. 3—How scenes made by both cameras are synced in the editing process. The visible cue mark on the single-system track indicates point of changeover to camera No. 2.

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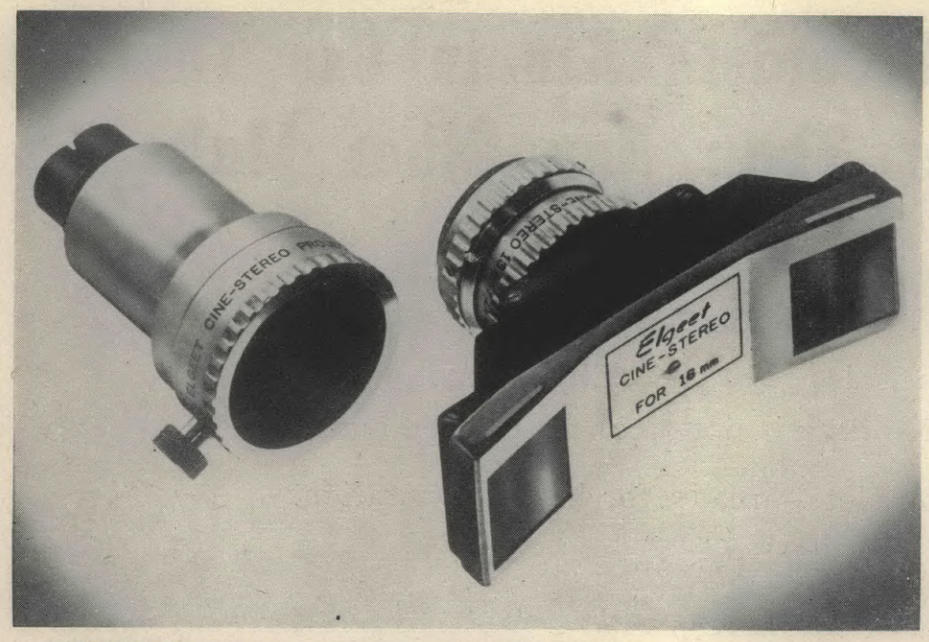
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NEWEST STEREO attachments for making and projecting 3-D 16mm movies are those of Elgeet Optical Company. Camera unit (right) which records dual images on a single 16mm frame, may be used on any "C" mount 16mm camera, the projector unit on any standard 16mm projector.

3-D Film Festival Open To Both Amateurs And 'Pros'

Many 16mm movie makers rapidly turning to making movies in 3-D, now that simple stereo attachments are on the market. Festival entries in production.

By ARTHUR GAVIN

When the American Cinematographer decided to hold the first 16mm 3-D Film Festival in Hollywood early next January, it was agreed that the event should be open to professional as well as amateur 16mm stereo motion pictures. Unlike in the amateur film contests which American Cinematographer has conducted in the past, films entered in the 3-D Festival will not compete with one another. Rather the Festival's purpose is to showcase what can be achieved in making 3-D movies in 16mm.

Given the same equipment, it is likely that amateurs will turn out stereo films that are as interesting and probably the technical equal of many 16mm professional stereo productions. This is because the equipment used will invariably be the same—Bolex, Nord, or Elgeet. It is in the approach, and in the imaginative treatment given a film that each entrant, amateur or pro, can distinguish his work.

During the pre-festival screenings, the various film entries will be classified according to origin, i.e., amateur, semi-professional, or professional.

A film in the *amateur* class is defined as one made by a non-professional without compensation, and where such film or prints of same have not subsequently been sold.

Semi-professional films are those made by film makers who have done some professional cinematography or film production.

A *professional* class film is one made by an established professional film producer or cinematographer for a client, or a film that has been sold subsequent to its production and under sponsorship at the time of entry.

One of the important provisions of the Festival is that only those 3-D films made on single film strips and requiring but a single projector for screening shall be acceptable. Obviously this includes films made by such stereo devices as are available to the amateur film maker, i.e., Bolex, Nord and Elgeet—all of which employ a dual image producing attachment for the camera and a similar attachment for use on the projector.

Now there have been some good 16mm stereo films made with other equipment, such as home-made stereo devices (coupled cameras) and by some professional equipment such as that developed by Friend Baker, Hollywood 3-D equipment engineer and designer of the Natural-Vision 3-D camera used in the studios. But unless these films can be screened at the Festival with the *same projector* that will be used in putting the other films on the screen, they cannot be accepted. Stereo films made by Baker's method can be shown with a single projector, when a Baker image erecting and transmission device is mounted before it.

As for special 3-D systems, other than those already mentioned, obviously it is impractical for the Festival committee to undertake the shipment to and from Hollywood of any special equipment necessary for screening films made with such systems.

Additional requirements for those who plan to enter films in the Festival are that all entries shall be completely-edited films. That is, they should have reasonable continuity (not be merely an assemblage of random shots, although well photographed novelty series of 3-D trick sequences will be accepted in lieu of a strictly continuity film); films should have at least a main and an end title; films may have sound—either recorded on the same film or separately on synchronized magnetic tape. Sound on wire or records will not be considered. Sound or silent, all films will receive the same consideration. The Festival committee will make no distinction between black-and-white and color entries; both will receive equal consideration.

(Continued on Page 340)



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A POPULAR technique, where sound is to be recorded with a recorder-projector, such as Bell & Howell's "202," is to screen the edited film and record a pilot track consisting of extempore description of each shot as it appears on the screen. This track, played back later, serves as a guide in preparing the final sound script.

Sound Tracks Need Planning, Too

Magnetic tape now makes sync sound possible for every movie maker. Good sound results call for careful preparation of narration, however.

By JOHN FORBES

SOONER OR LATER sound will be as important to *your* movie making as color film.

Then you will want to know all the answers—be up on all the latest techniques—that apply to this phase of amateur movie making. The advent of magnetic sound recording has had a terrific impact on the amateur's movie hobby. Now for the first time perhaps amateurs are provided with the most practical medium for producing synchronized sound for their films—magnetic stripe and tape.

It seems that always the most impressive, the most serious and entertaining amateur movies have been accompanied by sound in some form. Until recently, discs have been the media mostly employed for recording sound for 8mm and 16mm movies, or for supplying a simple background of music or sound effects. Then, with the development of magnetic wire recorders, the more ambitious movie amateurs seized upon this medium to provide synchronized sound for their films.

More recently, of course, has come the easier-to-use magnetic tape and tape recorders, and the magnetic recorder-projectors for both 16mm and 8mm; and these have provided the serious amateur with the ultimate means for making sound films, short of optically-recorded sound-on-film.

Naturally, there is more to adding magnetic sound to your films than simply turning on the recorder and speaking into the microphone. Just as the serious amateur plans each film production with meticulous care, so also must he plan his sound, and pursue certain steps in recording and combining it with his picture. Whether the sound is to be recorded on a film that has been sound-striped (for playback on a recorder-projector) or recorded and played back separately via magnetic tape, the procedure is essentially the same.

The first step is to prepare a script containing the text of the narration along with any music and sound effects. J. W. Bakke, a member of the Amateur Movie Society of Milwaukee, recently gave out with some pertinent information in this regard in an article he wrote for "Cine-Crat," monthly club bulletin of the AMSM. Said Bakke:

"A script is your narrative written out and timed against the film. Although a written script sounds like it would involve more effort than you may wish to expend, it will help you in many respects. First it helps eliminate the many small gramatical errors that all of us so often make. Duplication of words and expressions are thus eliminated, too. Until you see your narrative on paper, you won't realize how often you repeat words and phrases. 'Now we see . . . ' 'Now here's a nice color telephoto shot ,' are some classic examples.

"A written script makes us more conscious of the things we say, such as proper names. When we see our facts and figures laid out on paper before us, we tend to be much more critical; we double-check spelling and the dates and figures used. Of course, the most valuable thing a script does is to establish a 'pattern' for our rarration, which will enable us to allot exactly the right number of words to each scene—preferably fewer than we might otherwise.

"The mechanics of preparing such a narrative script are easy. Write out your copy—if possible, type it—double spac-

ing between the lines. This will allow ample room for making alterations and corrections. Triple space between each new scene description so there is a definite break or separation in your narration. This will help you avoid the unpardonable fault of so many amateur narrators—talking continuously. The aim here is to get *balance* into your delivery—just enough of the spoken word to tell what the picture does not reveal on the screen. Always time your narration so that you do not start the next paragraph until its corresponding scene has flashed on the screen.

"After you have your first rough draft of the script prepared, project your picture and read your script as the picture unfolds on the screen. In several instances it is likely that you will find yourself talking long after a scene or sequence described disappears from the screen. This fault can be corrected by shortening the script—lopping off unnecessary words; rewriting for more brevity. This may be hard to do at first, but once you see how it improves your narration, you will always write with brevity in mind thereafter.

"On those long scenes where you have provided awkward pauses, don't worry too much about them unless they appear too frequently. Occasional pauses are necessary—for you as the narrator, because they afford a moment to catch your breath; and for the audience, too—it tires of hearing a steady flow of

(Continued on Page 336)



FILL IN the breaks between narration with music "bridges" played from records. Add sound effects this way, too.

Why Not Extend Your Horizons?

It may be time for you to change from a realist to a creative filmer.

By LEO J. HEFFERNAN

EVERY ONCE IN A WHILE, a moviemaker should take stock within himself to see if his film-making activities are in a rut—and if he is not convinced that the quality of his films has been improving steadily, and the scope of his work is not widening appreciably, then he should do something about it.

Everything is wrong with his cine thinking if he grinds out the same old films year after year. "Never any better, never any worse," is a slogan to be shunned. But how can he set about improving his product?

The trick lies in widening filming horizons; tackling problems which he never thought he could handle when he first started out; and improving his moviemaking techniques in *all* departments. Advanced filmers got that way only after they realized that their next film had to be better than the last one—much better. When they try to rest on their laurels, they're through!

Let's suppose that, up to now, you have always waited for things to happen before venturing forth with your movie camera. You've waited for spring, for fall or winter; you've waited for football or baseball seasons; you've waited for big parades, and you've waited for blossoms and flowers. Then, when the time came, you found that parades are not such hot screen material, that bad weather can ruin the chance to shoot blossoms, or that you didn't go to a football or a baseball game that season.

Well, it may be time for you to change from a realist to a creative filmer. Extend your horizons and, instead of waiting for things to happen, strike out boldly and *make* them happen for your camera alone. In other words, write out a script which calls for scenes and action which, at the time, exist only in your fancy but which you can set up in locations to which you have access, utilizing actors recruited from among your family and friends. You might wait indefinitely before such a film could be produced strictly on a candid basis.

You may consider that you are the type of filmer who likes scenes to have a casual, unposed look—similar to those which you shoot on a candid basis. Well, there is nothing wrong with the documentary approach. By all means light your sets and stage the action in such a way that it will have an authentic, raw look. While striving for this on-the-spot appearance, you will find that it is not easier to come by than the slicker, more artistic type of film.

Slick or raw, the important thing is that you will have gotten away from the idea that you are simply a camera waiting for something to pop up all by itself, so you can press the starting button. Instead, you are a director first and a cameraman afterwards, and you've been disappointed in the type of screen material which popped up all by itself.

As an example of what a change of technique can do, one day I happened across a well organized neighborhood baseball game. I worked with my movie camera on a candid basis, and nothing happened the way I wanted it to and I ended up with a series of disjointed shots.

The boys settled the matter for me when they became interested in my camera. We promoted a little movie producing company instead of just a baseball game. "Hams" to the last man, the boys delighted in acting out all of the situations I wanted. They swung like a gate, bunted, stole down to second, slid home—all on cue. All I had to do was name it and I could have it, and you never saw such enthusiasm! I broke up the ball game, but I got a lot of fancy footage which jelled into an excellent movie.

Adding an advanced directorial technique to your moviemaking is but one improvement. It will provide much more interesting footage, of course, but undoubtedly you can polish up in other departments, too; in editing and titling, for example. It is here that thinking shows up the most, but it is also gratifying to discover that all of your scenes are "razor sharp" and perfectly exposed. In the editing stage, take a dim view of sub-standard footage and always discard it even if it means that you will have to go out and make some scenes over again.

Don't let anything stand in the way of your determination to make your next picture better—*much better*—than your last one. END

Basic Lighting For Indoor Filming

How to key your lighting of interiors to suit the mood of the action and the locale, and properly establish source of the light.

By CHARLES LORING

WHEN WE SHOOT exterior sequences photographic light is provided by the sun, and our task is to simply control the light in an effective manner. But when we move indoors to shoot interior sequences, we are suddenly confronted with the problem of *lighting* and must work with units of artificial illumination.

Aside from providing enough light to expose the emulsion, the function of interior lighting is to bring out the form and detail of the subject matter to best of advantage. For this reason, lighting should be keyed to the mood of the action, to the locale, and to the established source of light. This latter point is very important, since an audience will sense whether or not the main *key* light is coming from the right direction. If, for instance, the long shot of a room should show sunlight streaming in a large window, one would naturally expect the brightest light falling on the subject to be coming from the direction of that window.

For the home movie maker, lighting units may consist simply of ordinary flood bulbs mounted in cardboard or metal reflectors of the "dishpan" variety. But for the advanced amateur or semi-professional moviemaker, there are available more advanced units, each with its own special use in lighting.

First of all there are *floodlights*, composed of bulbs of 1, 2, or 4 brightness, which are screwed into large concave reflectors surfaced either in white or aluminum. These are useful for general set illumination and for the boosting of overall key of a set-up. Used exclusively, they provide a rather harsh quality of light.

Next there is the *broad*, a professional type of diffused floodlight composed of a bulb mounted in a rectangular metal housing with a glass diffusion slide in front. This is an extremely soft type of light, very useful to fill shadows in closeups, or to provide an overall glow in low-key sequences.

Spotlights fall into several catagories according to size, the largest being the *senior*, then the *junior*, then *keglight*, and finally the tiny "Dinky Inky." All of these lights have adjustable beams that can be narrowed down to a small, concentrated spot, or broadened out to a flood effect.

Strip-lights, as the name implies, are composed of a number of bulbs mounted side by side in a metal trough type of reflector. They are useful in illuminating backdrops or artificial backgrounds.

Arc lights, which burn carbons, fall into a special category. They produce a harsh, brilliant light that effectively simulates sunlight or moonlight. Arc lights are generally used only by professional film producers.

No matter what kind of lighting units the filmer has available, it is up to him to make the best possible use of his equipment. Here again, the effect depends not so much upon the kind of equipment as how it is used.

In a discussion of lighting, a few basic terms should be defined so that there will be no misunderstanding of the expressions used.

The term most frequently used is *key light*. This refers to the strongest light in the scene and, as we have pointed out, it is dependent upon the main visible source of illumination. The direction of the *key light* should always remain the same throughout the sequence.

Fill light refers to the illumination used to fill the shadows created by the key light. It's intensity varies according to the degree of dramatic effect desired, but it is always of weaker intensity than the key light.

The term *front lighting* should be self explanatory, since it refers to a key light placed directly in front of the subject. This type of lighting is rather undramatic in closeups and it is better to use a less symmetrical pattern.

Back lighting refers to a light placed at the rear and above the subject, pointing downward. It is effective in creating separation between subject and the key light aimed at the side of the background.

Side lighting (or *cross lighting*) has the key light aimed at the side of the subjects face, and it is very effective in lighting for character or dramatic effect, since it brings out the lines and contours of the face.

Top lighting is achieved by a light placed directly over the head of the subject, pointing downward. It is a very extreme kind of lighting when used without the proper fill.

Rim lighting refers to light placed directly in back of the subject, but lower than a back light, so that the subject is outlined with a rim of light. This pattern is sometimes very effective when used with other units as fill.

There are variations of these basic patterns, each of which has its own special effect. But the pattern described above are standard set-ups with which the cinematographer begins.

In lighting a closeup, it is necessary to bring out the roundness of the subject's head, and to keep his hair and clothes from blending into the background. This effect is achieved partly by the use of backgrounds with suitable contrast, partly by modeled lighting for depth, as opposed to the flat effect of straightforward lighting.

In using top-light or back-light for separation, however, care must be taken that these lights are not too bright. Otherwise, the hair will have an artificial, burned-up appearance.

A good standard pattern of lighting for closeups is as follows: The key light is placed a bit to one side of the camera, so that it falls on the face in what is known as "three quarter front light." The key light is pointed down toward the subject at about a 35 degree angle, being careful that the nose shadow doesn't extend too far down into the lower lip.

To balance the key illumination, we use a diffused fill light placed at the subject's eye level. This fills in the otherwise harsh shadows about the eyes, nose, and neck. If a back light is used for separation, it should fall on the shadow side of the head.

In lighting a *two-shot* of a man and a woman together, use a diffused fill light on the woman in order to soften and enhance her appearance. But the man should be lit with very little fill and perhaps a cross-light to enhance his masculinity.

Sometimes, instead of using back-light for separation, it is more realistic and effective to light the background behind the shadow side of the face, so that the contour will be effectively silhouetted. Also, a background of interesting shadows, if properly motivated, provide an attractive setting for the face in closeup.

The two most frequently used styles

(Continued on Page 347)

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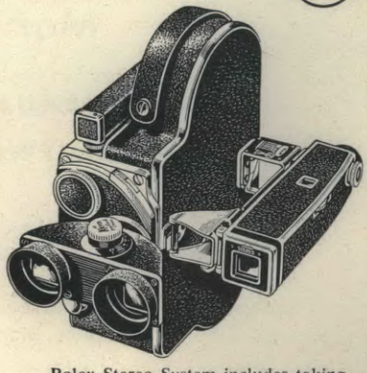
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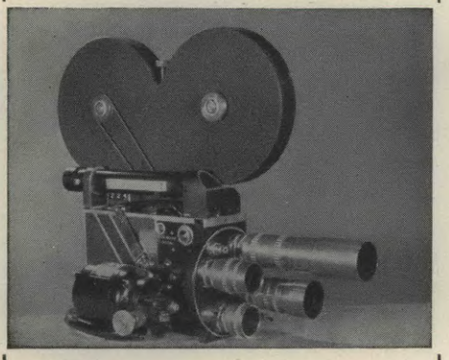
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CLOSING DATE FOR ENTRIES—DECEMBER 1, 1953

PLANNING SOUND TRACKS

(Continued from Page 333)

narration. Breaks can often be filled in with music. If you have access to a record turntable, you can fill in the breaks between the narration intervals with what the professionals call 'musical bridges'—short interludes that bridge the various narrative intervals. This technique will give your films a professional touch, although it reuirqes a little experience in order to select music and to cue it properly so it will fit perfectly in the breaks between the spoken words.

"In summing it up, some of the important things to keep in mind when preparing your script are as follows:

"1—Let the picture tell the story. There is no need to tell your audience via narration what already appears on the screen or where the scene makes it self-evident. Remember that the whole purpose of your motion picture is to convey ideas visually. The function of your sound is to augment and amplify what the picture reveals.

"2—Say enough to explain a scene or the action displayed within it—then stop talking. Don't say too much about things which the audience can see for themselves. Also, be careful about giving endless facts and figures. A few may be alright if they are pertinent and add to the story, but don't overdo them; no one remembers them anyway.

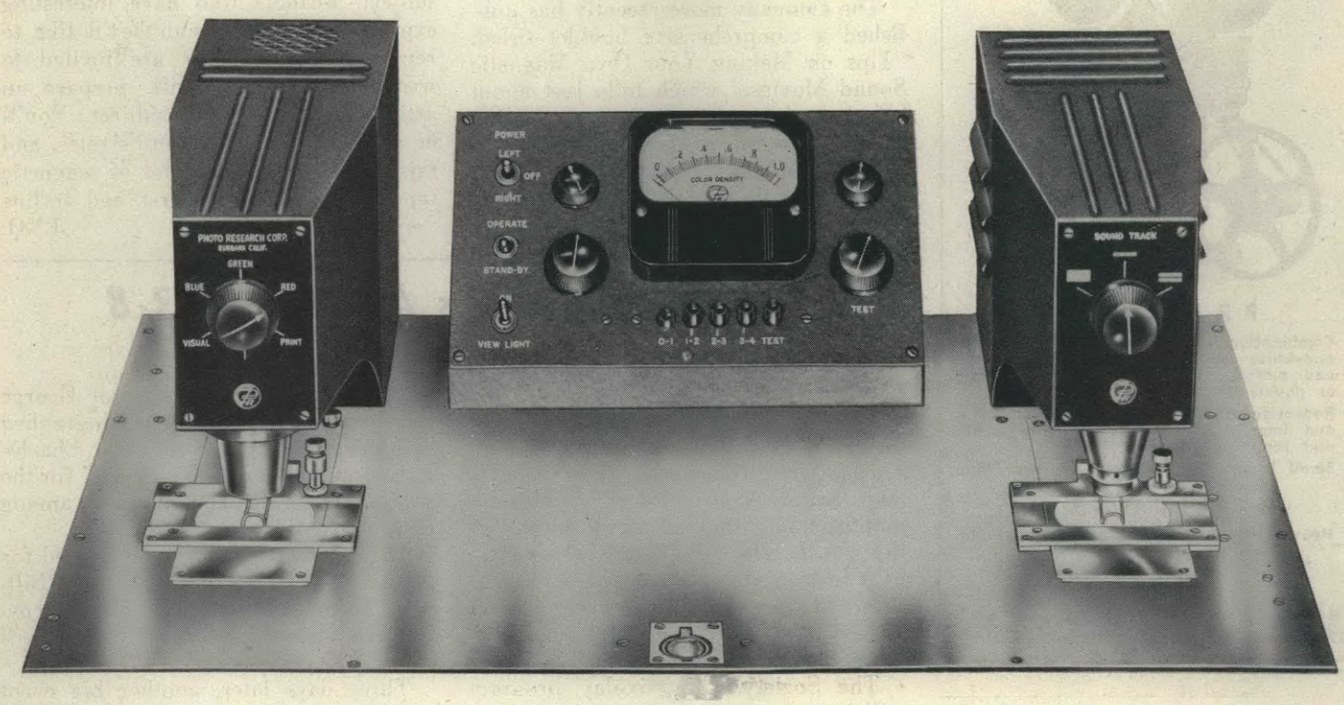
"3—Make it a point to identify the picture subject at the beginning of a scene. If a scene, for example, pictures a yacht in a harbor, we may begin the narration like this: 'This is the yacht, Helen C, lying at anchor in Milwaukee's beautiful South Shore yacht basin.' One should always be very pointed in his remarks; too often a narrator is more concerned with words than with the picture, and end up with a remark something like this: 'Dr. Arthur Hankwitz, past-president of the Amateur Movie Society of Milwaukee, is the proud owner of a Higgins boat, which he keeps anchored at the foot of Nock Street, where the South Short Yacht Club is located.' Unnecessary verbiage and needless rambling are tiring to an audience and yourself. Remember, therefore *—keep it short and to the point!*"

And there we have the sound advice of a seasoned amateur who speaks from experience.

Incidentally, readers will be interested in two services which Bell & Howell Company has rendered movie amateurs interested in magnetic sound for their movies. The company has begun publishing "Pioneer Tracks." a new publication for magnetic sound movie makers

SPECTRA Color Densitometer

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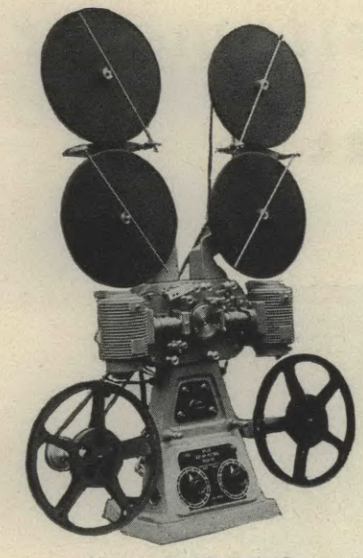
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which will serve as a medium for the exchange of ideas and experiences in magnetic recording. The first issue was out on April 1st of this year. Subsequent issues will be sent on request to anyone interested without charge. Just drop a line to Bell & Howell Company, 7100 McCormick Road, Chicago 45, Ill., with your request to be put on the mailing list.

The company more recently has published a comprehensive booklet titled, "Tips on Making Your Own Magnetic Sound Movies," which tells just about all there is to know about recording magnetic sound for 16mm films, using Bell & Howell's *soundstri*pe and the Bell & Howell Model 202 magnetic recorder-projector. The book's chock full of data for others, too. It isn't for Model 202 owners alone. And there is a very interesting chapter on preparing a sound script—the very subject of this article.

Sound for amateur movies is the big trend of the future. So watch subsequent issues of *American Cinematographer* for additional articles on the subject. Readers who have interesting experiences in this field they'd like to report to our readers are invited to write us—or better still, prepare an article for AC on the subject. You'll be paid regular contributor's rates, and this in turn will buy a lot of magnetic tape! Write the editor first, and outline your article idea. END.

PSA Convenes In Los Angeles Aug. 3-8

Special events slated for amateur movie makers

FOR THE FIRST TIME in many years, the Motion Picture Division of the Photographic Society of America will play a prominent role when the Society's 20th annual convention is held next month in Los Angeles, movie capital of the world. The big annual get-together of PSAers will get under way August 3rd and run through August 8, with headquarters at the Los Angeles Biltmore Hotel.

The Society's big six-day program will include papers, talks, and activities in the following fields of photography: pictorial, color, technical, nature, photo-journalism, stereo, camera club, and amateur motion pictures. But it is in the latter, perhaps, that one of the most interesting programs has been planned.

PSAers Charles Rosher, ASC, and George Sidney, eminent MGM director, forming an "unofficial" entertainment committee for the visitors, have arranged for an outstanding program long to be remembered by those who take part. This is a field trip to one of Hollywood's big studio location ranches.

Normally, it's almost impossible for visitors to see movies being made in the studios or on location; but this trip will enable PSA members to visit Corriganville Movie Ranch, a 2000 acre movie making kingdom, dotted with movie sets of all descriptions, where such famed productions as "Burma Road," "Fort Apache," and hundreds of others have been made. Perhaps it's no exaggeration to say that more than half of all western thrillers have been filmed here. It's a photographer's paradise!

But here's the big surprise in store for you moviemakers who plan to visit Corriganville that day. A complete Hollywood movie making crew and cameras will be on hand, making movie scenes under the guidance of director George Sidney, and which will be photographed by director of photography Charles Rosher and crew. Many "extras" for the scenes are to be chosen from among PSA conventioneers.

This big movie event is scheduled for August 6th. Busses will leave the Biltmore Hotel at 11:00 A.M. Tickets, covering transportation both ways, will cost $2.00 per person.

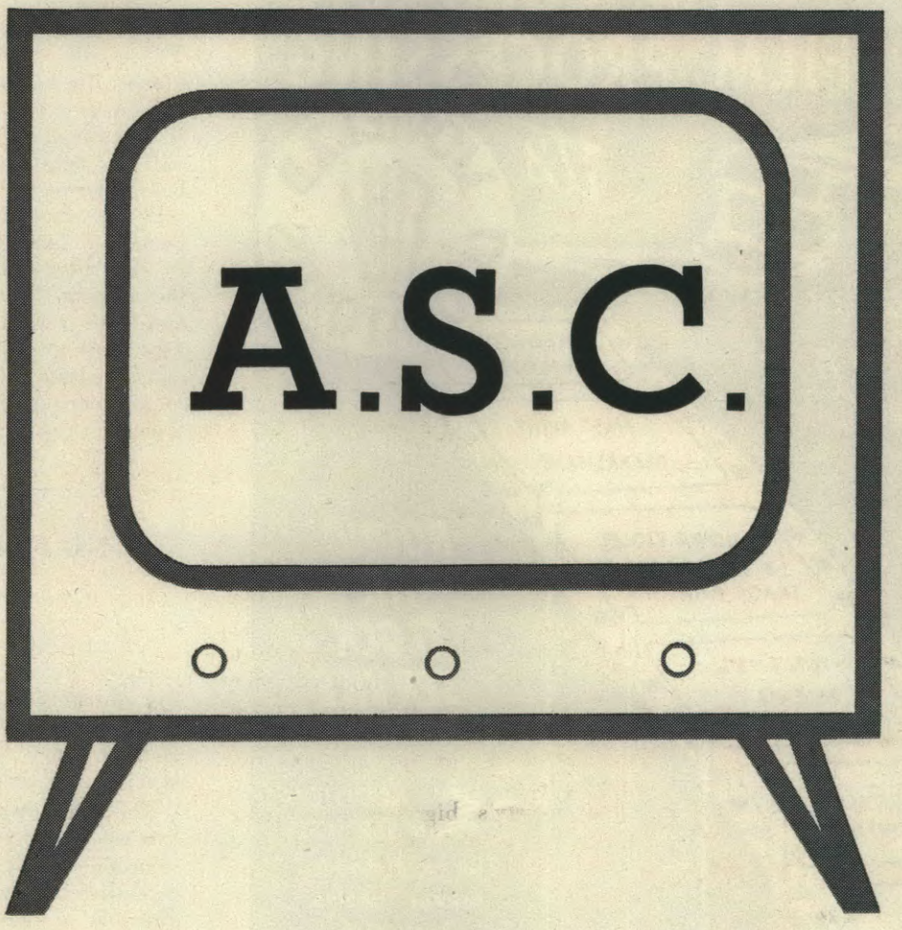
Three days later, another big event is scheduled. This is another field trip —to famed Knott's Berry Farm, thirty miles southeast of Los Angeles. Having grown over the years from a simple roadside stand to a vast restaurant-catering-sight-seeing enterprise that is the mecca of cameraists, its big attraction is the reconstructed Western Pioneer Town, complete in every detail.

Here will be found western buildings that have been transplanted intact from ghost towns and vanishing western cities. These are filled with treasured relics of the early West so complete and so authentic that Knotts has become known as the Museum of the Old West.

Western models to fit the settings will be on hand, and it will be possible for movie makers to film interesting action and continuity in the midst of this unusual western locale.

This trip has been arranged for those PSA conventioneers who will remain over after the Society's banquet the night of the closing day of the convention. Price of $3.50 includes chicken dinner at Knotts Berry Farm and chartered bus transportation both ways.

Early registration, both for the convention and the events described above, is important. You need not be a member of PSA to attend, but you must be registered, according to PSA officials.



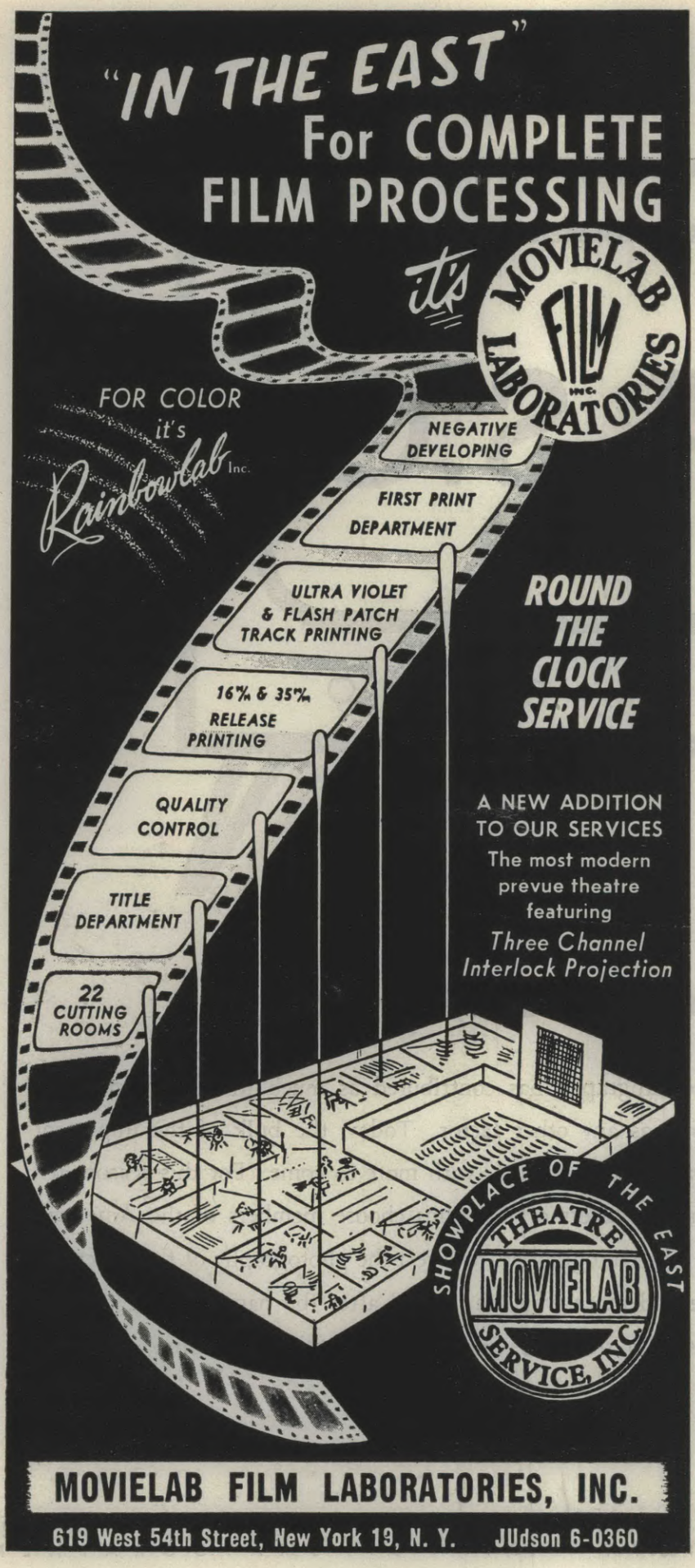
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3-D TELEVISION

(Continued from Page 320)

one produces an image on half of the picture tube.

"Milton L. Gunzberg, President of Natural Vision, is working on a 3-D TV system which will not require glasses. He has tried it successfully, but it is fuzzier than systems using Polaroid lenses. Gunzberg, who says that 3-D TV will be here before color, reportedly has a receiver attachment which could sell for about $15, enabling the set owner to obtain the 3-D effect.

"And bigger and better things are in the making. Indications are that stereo and wide screen will eventually combine, both in motion pictures and TV, and integrate with stereophonic sound to present realism never before obtained."

3-D FILM FESTIVAL

(Continued from Page 326)

No entries for the Festival will be accepted before October 1st. Prospective entrants thus have another three months in which to complete production of their films. Closing date for entries is midnight, December 1, 1953.

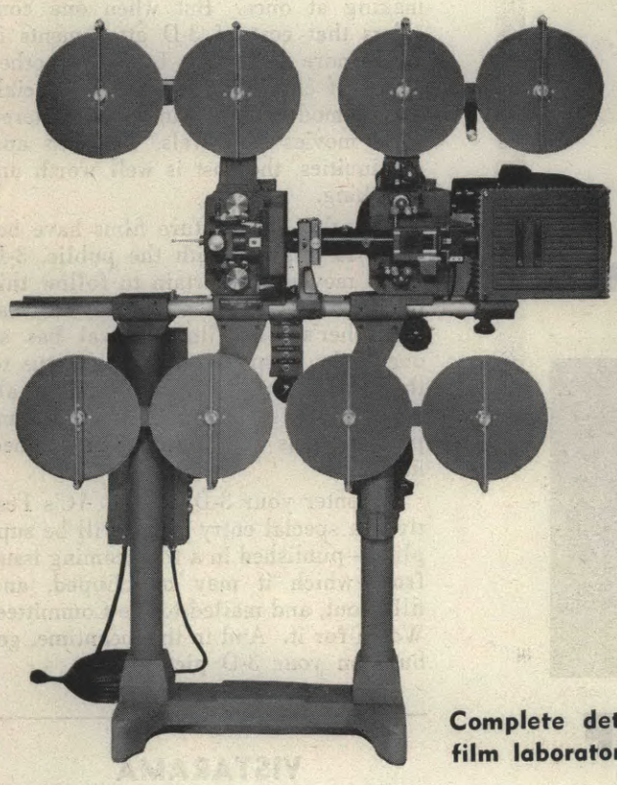
The committee which will evaluate entries and select those films to be screened during the three-day festival in Hollywood, will include six leading directors of photography in the Hollywood studios, most of whom have photographed 3-D films that are currently being shown in the nation's theatres.

And now a word to those 16mm filmers who have not yet started on their 3-D film entry. Equipment of the three manufacturers previously mentioned is now generally available. Both the Bolex and the Nord equipment have been described in articles in earlier issues of American Cinematographer. That of Elgeet Optical Company (see illustration) is the latest on the market, and will be described in detail in an article now being prepared for our August issue. Your camera dealer will be glad to demonstrate 3-D movie making attachments, or to arrange for a demonstration where such equipment is not yet regularly carried in stock.

Now that such simple 3-D attachments are available, a broad new field of movie making has been opened to the 16mm filmer, both amateur and professional. Indeed, a number of 3-D films in 16mm color already have been turned out for clients by industrial film producers using Bolex 3-D equipment —one that comes to mind being "Pack-

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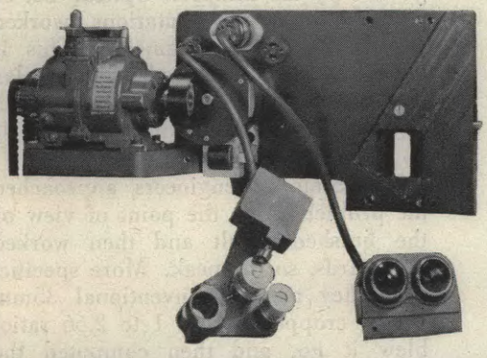
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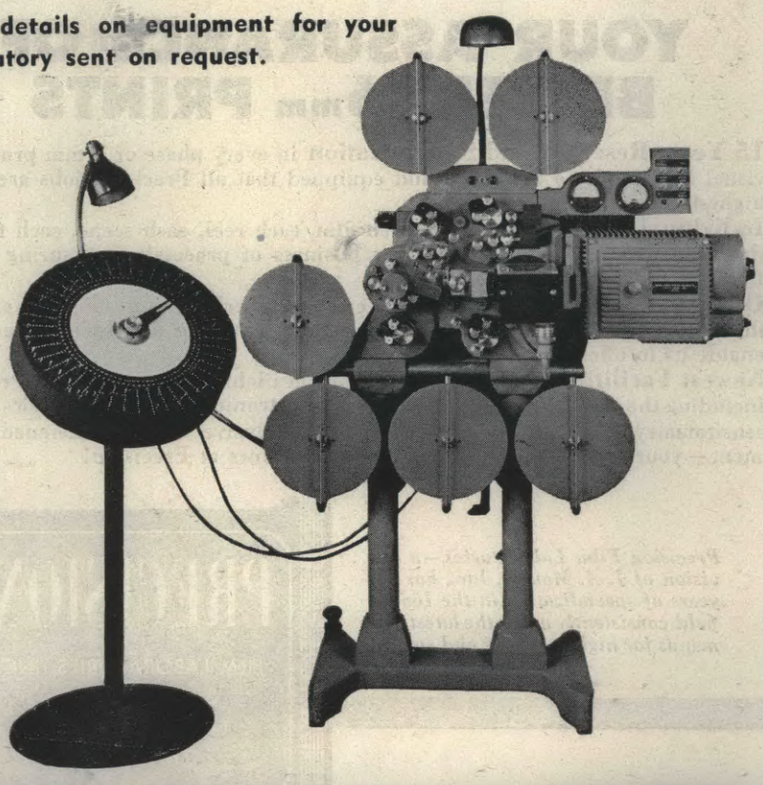
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aging—The Third Dimension," produced by Academy Film Productions, Chicago, for Stone Container Corporation.

Because of the present cost of 3-D attachments for 16mm cameras (the lowest-priced, the Nord, is around a hundred dollars) not every 16mm amateur is expected to rush into 3-D film making at once. But when one considers that cost of 3-D attachments is little more than that for many other pieces of cine equipment, and especially the modern "new look" that stereo gives movies of travels, vacations and continuities, the cost is well worth undertaking.

Now that 3-D feature films have become so popular with the public, 3-D home movies are certain to follow this popular trend. American Cinematographer's 3-D Film Festival has as one of its purposes to give impetus to this trend, and to demonstrate to all movie makers what a tremendous impact there is in 16mm movies filmed in 3-D.

To enter your 3-D film in AC's Festival, a special entry blank will be supplied—published in a forthcoming issue from which it may be clipped, and filled out, and mailed to the Committee. Watch for it. And in the meantime, get busy on *your* 3-D picture!

VISTARAMA

(Continued from Page 326)

same screens now being installed in theatres throughout the country to accommodate the latter process.

The Vistarama process stems from the same basic research as does CinemaScope, namely the anamorphoscope principles set down by French optical expert Henri Chretien. However, the actual lenses were formulated and ground by the Simpson Optical Co. of Chicago, from computations worked out by their own engineers. This is the firm that developed the complex optical system for the Norden Bomb Sight, widely used during World War II.

The Simpson engineers approached the problem from the point of view of the finished result and then worked backwards, so to speak. More specifically, they took a conventional 35mm frame, cropped it to a 1 to 2.66 ratio, blew it up, and then computed the mathematics of "squeezing" that composition back into a full 35mm frame. They had the first lens ground within ten days after it had been ordered by Dudley. This lens was unusually sharp

and needed only minor corrections. The second lens came even closer to the ideal. This third lens was pronounced perfect, and its formula was set as the standard.

Unlike CinemaScope which requires two separate and different anamorphoscope lenses (one on the camera and another on the projector), the Vistarama process uses the *same* lens on both camera and projector. Admittedly, however, there is a slight increase in sharpness to be gained when a separate, somewhat larger anamorphic lens is used on the projector, and it is expected that this system will be standardized.

"One of the major features of the Vistarama lens," says Carl Dudley, "is that prints of any aspect ratio, from conventional screen proportion up to 2.66, can be made from a single negative. This relieves the producer of the necessity of shooting two or more negatives to achieve this result."

Richard Goldstone, vice president in charge of production at Dudley Pictures Corporation, explains in further detail just how this works: " 'The Robe,' now nearing completion at 20th Century-Fox, was filmed both in CinemaScope and the conventional 3 to 4 screen ratio," he points out. "This necessitated two cameras, two crews, and a certain amount of re-staging to adapt the scope of the action to both systems. In tests with the 1 to 2.66 aspect ratio, it has been observed that the audience tends to concentrate on the center portion of the screen. Therefore, while the full frame gives great scope to the composition of crowd shots or scenic panoramas, any significant plot action staged at the peripheral limits of the frame might easily get lost. With this in mind, the director would shoot in Vistarama, grouping his compositions to take full advantage of the wide screen, but in such a way that nothing important would be cut off in masking for narrower aspect ratios. This would necessitate re-staging of only about 5% of the scenes.

"In the case of a low-budget Western, for example, the producer anxious to insure proper return on his investment would make half his prints in the full-frame 1 to 2.66 ratio to fit panoramic screens now being installed in many theatres throughout the country. However, to assure play dates in the many theatres still using conventional screens, the remainder of the prints would be made in the 3 to 4 ratio, the masking being done when color separation negatives are made from the original. The image on the film would still be 'squeezed,' but when projected with the anamorphic lens, it would become 'unsqueezed' and automatically masked to fit 3-to-4 screens. This would eliminate the need for a second camera, yet it would give the producer a film capable of being projected to any one of the many aspect ratios now being 'standardized' by various studios."

The screen normally used both for CinemaScope and Vistarama has a curve of about 1 inch to every foot of width. This curve is not necessary to satisfactory projection of either system, but seems to add greatly to the resulting illusion of depth. When sitting at the side of the screen the viewer experiences no distortion — however, paradoxically enough, the closer one sits, the less brilliant becomes the pictures. When one moves back, the picture becomes brighter.

The Vistarama process lends itself easily to 35mm blow-up from a 16mm original. Similarly, a 35mm original can be reduced to 16mm. "Vistarama lenses will be made available to producers of 35mm and 16mm films alike," Dudley declares. "There will be no script or booking approval and the lenses are to be made available on a very reasonable basis."

It is, of course, in the 16mm field that the new process will create the most stir. In a demonstration set up at

(Continued on Page 345)



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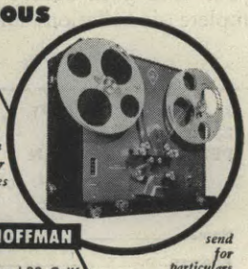
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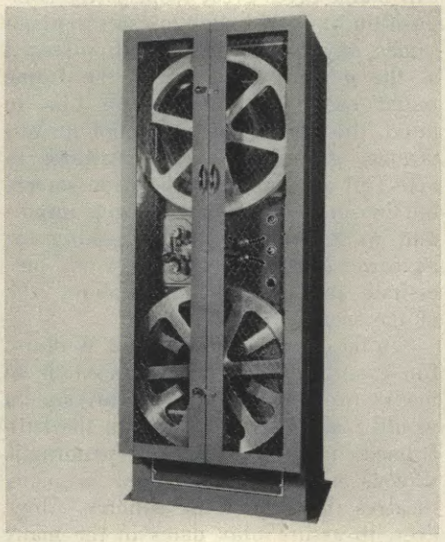
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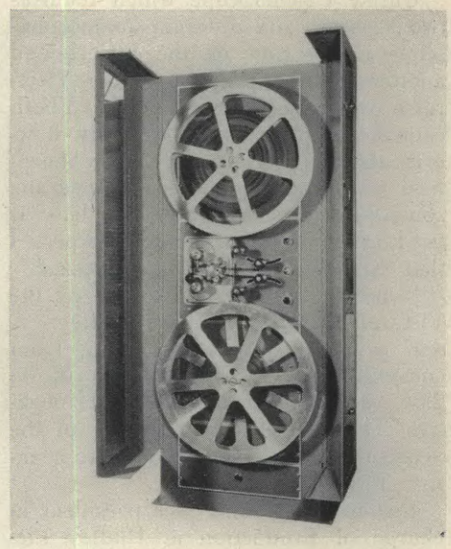
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The low-impedance, three-channel head provides for the addition of more channels in the event additional track accommodations will be needed later. Track placement is in accordance with approved recommendations of the Motion Picture Research Council, and there is a full 55 db separation between tracks.

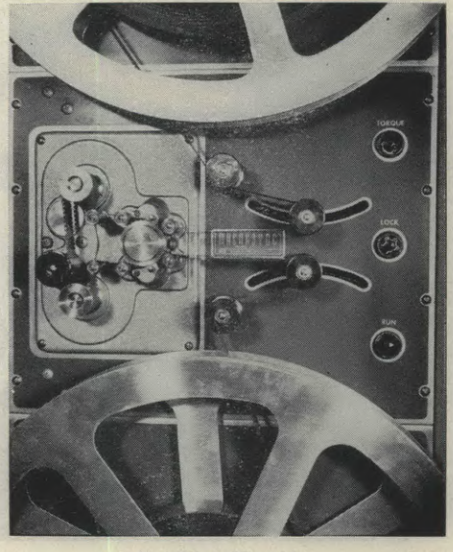
The 35mm "Synkinetic" film transport offers less than 1% flutter. All components of the basic film transport are mounted on a single rugged casting. Silicone-damped shock arms prevent film breakage.

There is constant-torque takeup operating through oil bath clutch plate overdrive that is powered by gear-head motor and V-belt drive; the supply reel also features a constant-torque clutch.

The audio system includes such features as: individual plug-in pre-amplifiers terminating at zero-level, 600 ohms, balanced line; equalization in accordance with Council recommendations; power supply with full regulation; and a built-in monitor amplifier with selective volume controls.

Another exclusive feature is the full remote control provided that has prominent pilot lights on face of the unit which indicate to operator when the pre-amplifiers are on, torque motor is operating and interlock motor is locked with the projectors.

Price of this Magnasync reproducer is $3,350, complete with amplifiers, f.o.b. North Hollywood, Calif. Manufacturer is Magnasync Mfg. Co., P.O. Box 707, North Hollywood, Calif.



Simplified film drive

VISTARAMA

(Continued from Page 334)

the Dudley headquarters, a standard Bell & Howell 16mm Filmosound projector equipped with a standard focal-length lens plus the anamorphic lens was placed 35 feet from a screen measuring approximately 22 by 8 feet—and at that distance it filled the screen with a brilliant image.

While the 16mm field for Vistarama will include both the industrial and home movie markets, its chief appeal will be to commercial clients, offering them, as Dudley points out, "the same exciting brand of showmanship and entertainment that has revolutionized Hollywood overnight."

Dudley recently completed demonstrations of Vistarama before leading manufacturers of 16mm cameras and projection equipment. As a result, all have agreed to take immediate steps to adapt their cameras, projectors and screen equipment for Vistarama. It is expected that one of the most popular new screen units will be a portable, slightly concave model measuring about 9 feet in width. In addition, the Dudley Corporation has announced that the new process will be available with Vistaphonic (stereophonic) sound in both 35mm and 16mm.

Dudley's own ambitious feature film production schedule for the near future bears out his own confidence in the Vistarama process. He has announced the forthcoming filmnization of "Tobor," a science-fiction story to be filmed in Eastman color.

Also on the boards, to be shot in Vistarama, is "Round the World Weekend," a sort of jet-propelled concept of the original idea used by Jules Verne in his "Around the World in Eighty Days." Film for this feature will be shot in 17 foreign countries.

The third feature film planned is "The Fabulous Land," now being scripted by Geoffrey Holmes. This will be a pictorial report on the American scene, emphasizing the more spectacular aspects of contemporary American life.

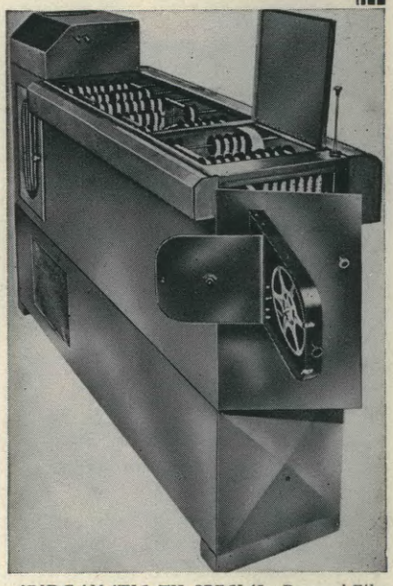
Dudley's commercial film department soon will undertake an intensive program of Vistarama industrial films when crews begin production of a special picture for the Southwestern Public Service Company, shooting in Texas. Already contracted for also are Vistarama commercial films in 16mm for TransWorld Airlines, Santa Fe Railroad and the Association of American Railroads. These clients are impressed with the dramatic new scope that the

(Continued on Page 347)

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VISTARAMA

(Continued from Page 345)

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BASIC INDOOR LIGHTING

(Continued from Page 334)

of general set lighting are *high key* and *low key*. High key is a style of illumination which is used to good effect in action pictures and sophisticated comedies, when a lively pace is called for. It is characterized by strong key light and a more intensified fill, so that contrast is cut down and brightness dominates. We do not mean to imply that high keyed lighting is flat. On the contrary, it has depth and modeling, but the contrast is not as extreme as it is in more dramatic types of set lighting.

As in the lighting of closeups, so, too, in general set lighting the key light should not hit the set straight-on, but should come one side or the other. There should be a definite source indicated (to give a reason for the highlights), and its effects should follow through in the entire sequence.

When the source comes from outside a window, its direction may vary with the time of day. For instance, morning sunlight falls at a sharp angle from above; whereas, evening sunlight shines directly into a room, casting long shadows. In a second story room, light from a street-light will, of course, shine into the room from below.

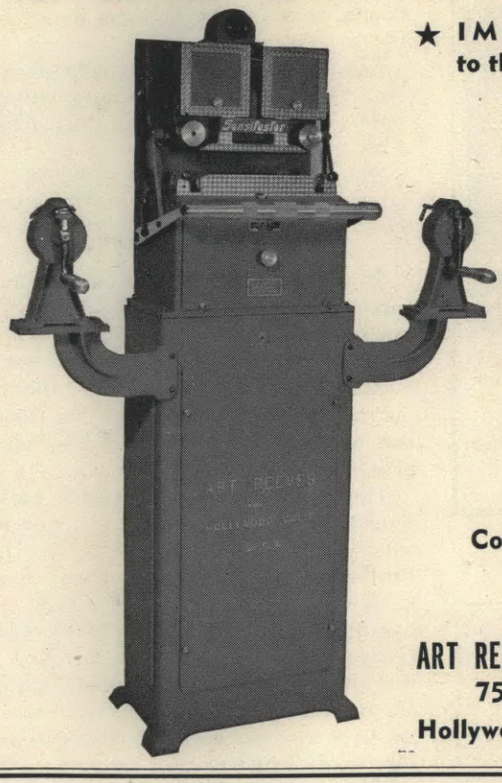
Many 16mm film-makers have a difficult time matching the lighting of closeups to that of long shots. They design the long shot lighting first, and then try to match the closeup lighting to it, discovering, in many cases, that the lighting scheme is not at all right for the closer shot. They then rearrange the lights until the closeup looks good, only to find, when the film is finally cut, that the lighting of the two scenes does not match at all.

Because of this, it is better policy to plan the lighting of the closeup first, and then broaden it out into general set lighting for the long shot.

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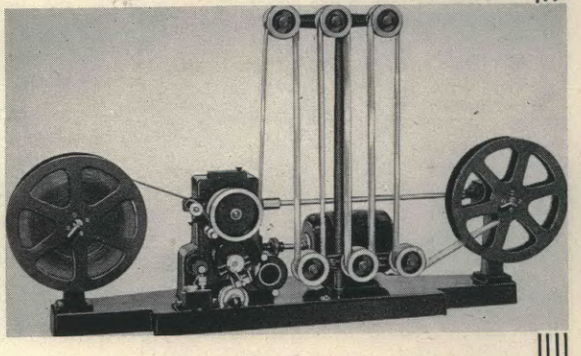
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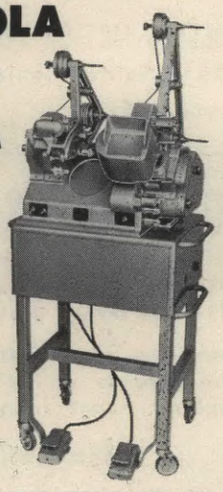
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DOUBLE SYSTEM PHOTOGRAPHY

(Continued from Page 328)

switch may start either camera and change from one to the other as desired and as filming progresses.

The switch used for this control may be either a double-pole-double-throw toggle switch, or a similar fast acting relay.

One pole of the switch transfers the current from one camera to the other; thus one of the two cameras is always in operation.

The second pole on the switch interrupts the line leading to the galvanometer of the single system camera, (Fig. 1). This is the crux of the entire technique, for the interruption produces on the Auricon sound track the visual cue we need for editing and synchronizing the pictures.

The switch is arranged so the galvanometer on the #1 camera is connected when the #1 camera is operating. This produces the conventional optical sound track any time camera #1 comes into operation. Later, these lengths of single system track can easily be matched to the double system magnetic master. Having matched this single system track, we have also matched all the photography made with the #1 camera.

When switching from camera #1, we interrupt both the gavlanometer and the noise reduction current. The galvanometer swings instantly to its center position, and this produces an abrupt change in the optical sound track (Fig. 2), which appears as a wide area of unmodulated track. It occurs on the tail of each scene filmed in camera #1, and marks the changeover point.

By using these visual cues on the single system track, the film editor will have accurate sync marks for each scene made on camera #2. However, he must remember that the cue marks are 26 frames ahead of the picture.

After the scenes made on camera #1 have been matched with the magnetic master, we are ready to complete the editing by splicing in place the scenes made on camera #2. Splices are made so the first frame of each camera #2 scene is joined to the 25th frame following the cue mark which appears on the #1 camera sound track (Fig. 3).

In splicing at the end of each scene made on camera #2, we simply cross over on a gang synchronizer to the first frame of the following scene, which has been filmed in camera #1.

Since all takes on camera #1 have been accurately matched to the master magnetic sound track, there is no danger of progressively losing sync as the scenes are intercut.

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Using this technique, one is able to produce quality sound films of continuous un-interrupted action with a minimum of investment time.

ABOUT THE AUTHORS

RICHARD F. DUBBE is a sound recording engineer for the Film Productions Company, Minneapolis, Minn., and the Audio-Visual Education Service of the University of Minnesota.

HARRY WEBB is a graduate student and instructor in photography at the University of Minnesota.

EASTMAN COLOR FILMS

(Continued from Page 323)

The separation positives are printed onto a new type Color Internegative Film (Type 5245) using a registering printer. This new film has slightly higher contrast characteristics than the earlier film, hence requires somwhat lower contrast separation positives than was required for the earlier product. As with the Color Negative, improvements have also been made in this film, with the result that there is better rendition of blue subjects. The separate layers of the Color Internegative Film are exposed through the appropriate separations using filter packs of the proper type.

Processing of the Color Negative, Color Print and Color Internegative Films is carreid out in conventional type continuous processing machines, which provide for all of the steps required. These include, in addition to the washing steps, prebath for backing removal, color development, first fixing bath bleach, second fixing bath, and wetting agent or stabilizing bath. Processing of the Color Internegative Film requires the same solutions as for the Color Negative, but a somewhat shorter development time is used for the former. For the Color Print Film, a different color developer solution is used than for the Color Negative Film. Other solutions are the same.

The accompanying schematic diagram illustrates the various steps in processing Eastman color films with the Eastman Color processing machine. Two ad-

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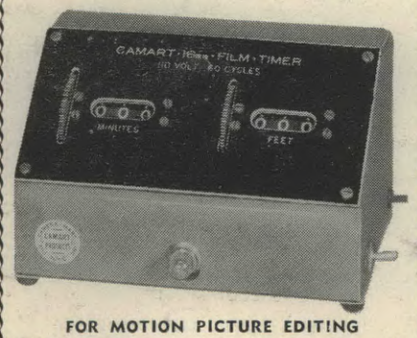
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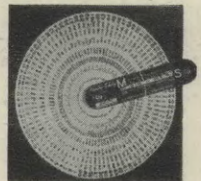
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ACOUSTIC TREATMENT

(Continued from Page 352)

to call in a good acoustical consultant. Material to be used for the treatment of the walls must be selected carefully, the amounts to be used must be carefully determined and the material must be distributed and mounted properly if acceptable results are to be assured.

For example, the common type of 12-inch square acoustic tile of one inch thickness might absorb 70 or 80 percent of the sound falling upon it in the upper frequency ranges, while at 100 cycles per sound the absorption coefficient might be only about 15 percent. If we use great amounts of such material which is almost transparent to the low frequencies we allow the low frequency energy to bounce around the room far too long. Thus too much of such material actually favors the low frequency energy which causes the most trouble. Excessive normal mode excitation by this low frequency energy results in a room with "boomy" characteristics.

It is fortunate that deficiencies in the low frequency absorption of the common cane fiber tiles can be balanced by plywood panels which, if properly mounted, absorb better in the low frequency region than in the high. The same plywood panels can be used to diffuse the sound energy in the room and thus discourage multiple reflections from opposite flat surfaces. If false walls are to be built to bring the room proportions into proper ratios, consideration should be given to including the walls for diffusing effect.

Simply inclining flat plywood panels is a great step toward the diffusion of the sound energy impinging upon it. Bending the panels on the arc of a circle form "polycylindrical diffusers" which are even more efficient. To be effective in diffusing the troublesome low frequency energy the panel dimensions should be large. The plywood diffusing elements shown in the accompanying photographs are ¼" in thickness and a standard 4-foot width is used. The flat panels are inclined at a slope of about 1 to 6. The curved diffusers rise about 4 inches in a 4 foot span.

To make the inclined or cylindrical diffusers the plywood is nailed to carefully shaped ribs or bulkheads. These are sawed from two-inch lumber and they divide the space behind the plywood into separate cavities. By placing these bulkheads at random spacings, the cavities are of different volumes and each tuned to a given frequency like a bass drum. The vibration of the plywood "drumhead" results in friction between the fibres of the plywood and much of the sound energy is changed to heat. To avoid rattles the plywood should be securely nailed or screwed to its mounting strips. Felt strips could be used between the plywood and the frame.

The cane fibre tiles do their best work if mounted in patches, and an attempt should be made to place patches of sound absorbing material on one wall opposite untreated surfaces on the other. Mounting absorbing material in the corners of the room is using it to greatest advantage. In general, randomness is greatly to be desired in the distribution of the material over the wall surfaces.

The treatment of the room shown in the photographs has resulted in a very satisfactory listening environment, having a pleasing brilliance. In the evaluation of sound tracks observers find it easy to detect flaws and we have experienced a much greater agreement among different observers in this room than in poorly treated rooms having dead spots and other defects. The live but diffuse conditions built into this room have resulted in good intelligibility in listening to reproduced speech.

The technical advice of Ludwig W. Sepmeyer during the course of this period is greatly acknowledged.—Author.

BULLETIN BOARD

Continued from page (306)

conclusion of filming the last show of the season. "For making our life one wonderful picture after another," was text inscribed on trophy. According to Phil, the company made 40 pictures in a row without any friction whatever—a record unheard of in Hollywood. In return, George and Gracie hosted the crew to a buffet luncheon on the sound stage.

•

Dr. Charles Daily, of Paramount Studio's research department, will shortly make a national tour explaining to Paramount distributor personnel and exhibitors the advantages of using Paramount's preferred 1.66 to 1 aspect ratio in screening conventional backlog films; also how to build a new wide screen at nominal cost.

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Charles W. Herbert, ASC, began production on a TV film series in Tucson, Arizona, last month.



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